Server Process Reference

Summary

This reference manual describes the server processes available in Altium Designer.

Technical Reference
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This reference details:

- Server Processes
- Client (DXP System) Processes
- Integrated Library Processes
- PCB Processes
- FPGAFlow Processes
- Schematic Processes
- WorkSpace Manager Processes.

Server Processes Reference

Servers

A server provides its services in the Altium Designer environment (the client side). The Client module of the Altium Designer interprets the tasks in terms of processes and then delegates these processes to the appropriate servers.

For example when a user is clicking on the Schematic menu to place a wire, the Client interprets this action as a **'PlaceWire'** process and delegates the process to the Schematic Editor server. The Schematic server responds by executing the process. The functionality of a server that is installed in the Altium Designer is exposed by that server's processes and its exposed functions.

Generally a process is executed by selecting a packaged process launcher (such as clicking on a toolbar button, or pressing a hot key or selecting a menu item) called as a command in Altium Designer, however you may wish to manually run a process: Up to three different types of process launchers can be used to launch the same process.

Each server process has a process identifier. The process identifier is made up of two parts separated by a colon. The first part of the process identifier indicates the server that defines the process, and the second part is the process name.

- For example, the process **Sch:ZoomIn** is provided by the Schematic Editor server. When this process is launched, either by selecting a menu item, pressing a hot key or activating a toolbar button (which are all defined as process launchers in the Altium Designer), it will perform the task of zooming in on the currently active schematic sheet.

A process is implemented as a server name:server process string. Processes are stored in a command launcher table maintained by the server. Every time you execute a process via the user interface in Altium Designer, it consults the appropriate server's command table to fetch the process string and then sends this string over to the server for the server to determine which process to execute. These processes are stored in corresponding server install files with an INS extension.

Parametric Processes

A parametric server process allows the information, a process needs, to be passed when the process is called. This ability to be able to pass process parameters allows direct control over the operation of a process. For parametric processes, each parameter has a value assigned and this parameter / value block is represented as Parameter = Name.

- For example FileName = C:\Program Files\TestFile.Txt.

To concatenate several parameters as a whole string, each parameter / value block is separated by the pipe | symbol.

- For example Parameter1 = Name1 | Parameter2 = Name 2 etc.

There are two ways you can execute a process in a script

To execute a server process in a script, you need to use commands such as ResetParameters and RunProcess procedures or invoke the Client.SendMessage function.

Example 1

```
ResetParameters;
AddStringParameter('OpenMode','NewFromTemplate');
AddStringParameter('ObjectKind,'Project');
RunProcess('WorkSpaceManager:OpenObject);
```

Example 2

```
Client.SendMessage('WorkspaceManager:OpenObject','OpenMode=NewFromTemplate |
ObjectKind=Project',1024,Nil);
```

Server Process Routines

To execute scripts from a script, you need to use process routines provided by Altium Designer in order to execute processes. Normally you would just use three routines, **ResetParameters**, **AddStringParameter** and **RunProcess** routines to execute a server process with parameters in your script.

Processes Overview

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Generally a process is executed by selecting a packaged process launcher (such as clicking on a toolbar button, or pressing a hot key or selecting a menu item) called as a command in Altium Designer, however you may wish to manually run a process: Up to three different types of process launchers can be used to launch the same process.

For parametric processes, each parameter has a value assigned and this parameter / value block is represented as Parameter = Name.

- For example FileName = C:\Program Files\TestFile.Txt.

To concatenate several parameters as a whole string, each parameter / value block is separated by the pipe | symbol.

- For example Parameter1 = Name1 | Parameter2 = Name 2 etc.

Example

```
Procedure RunAProcess;
Begin
    ResetParameters;
    AddStringParameter('OpenMode','NewFromTemplate');
    AddStringParameter('ObjectKind,'Project');
    RunProcess('WorkSpaceManager:OpenObject);
End;
```

There are two ways you can execute a process in a script

Running a script using the extension commands such as ResetParameters and RunProcess procedures or Client.SendMessage function.

Example 1

```
Procedure RunProcessTest;
Begin
    ResetParameters;
    AddStringParameter('OpenMode','NewFromTemplate');
    AddStringParameter('ObjectKind,'Project');
    RunProcess('WorkSpaceManager:OpenObject);
End;
```

Example 2

```
Procedure UseClientAPI;
```

```
Begin
    Client.SendMessage('WorkspaceManager:OpenObject','OpenMode=NewFromTemplate |
ObjectKind=Project',1024,Nil);
End;
```

AddColorParameter

Declaration

Procedure AddColorParameter(Const Name: String; Red: Integer; Green: Integer; Blue: Integer);

Description

This procedure adds a color value parameter to the parameter buffer. This procedure is used to define a color for use by a process that requires a color parameter. The Color is a value where value = RedVal + 256*(GreenVal + 256*BlueVal) and Name is the name representing this color value.

AddIntegerParameter

Declaration

Procedure AddIntegerParameter(Const Name: String; Value: Integer);

Description

The AddIntegerParameter procedure defines a parameter with an Integer data type to the parameter buffer for use by a server / Process.

Example

```
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','Netlist');
    AddIntegerParameter('Index',5);
    AddStringParameter('ReturnGeneratedDocuments', 'True');
    RunProcess('WorkspaceManager:GenerateReport');
End;
```

AddLongIntParameter

Declaration

Procedure AddLongIntParameter(Const Name: String; Value: LongInt);

Description

The AddLongIntParameter procedure defines a parameter with a longint data type to the parameter buffer for use by a server / Process.

Example

```
Begin
    ResetParameters;
    AddLongIntParameter('LongIntValue',5);
    // code here
End;
```

AddSingleParameter

Declaration

Procedure AddSingleParameter(Const Name: String; Value: Single);

Description

The AddLongIntParameter procedure defines a parameter with a single data type to the parameter buffer for use by a server Process.

Example

```
Begin
    ResetParameters;
    AddSingleParameter('SingleValue',5);
    // code here
End;
```

AddStringParameter

Declaration

Procedure AddStringParameter(Const Name, Value: String);

Description

This procedure adds a parameter with a string value to the parameter buffer. The Name parameter represents the name of the process parameter and the Value parameter represents the value of the process parameter.

Example

```
    ResetParameters
    Call AddStringParameter("Object","JumpToLocation10")
    Call RunProcess("PCB:Jump")

    ResetParameters
    Call AddStringParameter("ZoomLevel","2.0")
    Call RunProcess("PCB:Zoom")
```

AddWordParameter

Declaration

Procedure AddWordParameter(Const Name: String; Value: Word);

Description

The AddWordParameter procedure defines a parameter with a Word data type to the parameter buffer for use by a server / Process.

Example

```
Begin
    ResetParameters;
    AddWordParameter('WordValue',5);
    // code here
End;
```

GetColorParameter

Declaration

Procedure GetColorParameter(Const Name: String; Var Red: Integer; Var Green: Integer; Var Blue: Integer);

Description

The GetColorParameter procedure retrieves the values of a color parameter as RGB values from the parameter buffer after running a process that returns a color value.

GetIntegerParameter

Declaration

Procedure GetIntegerParameter(Const Name: String; Var Value: Integer);

Description

The GetIntegerParameter procedure retrieves the value of an integer type parameter from the parameter buffer. This procedure after a process has been executed can return a resultant word value.

Example

```
Var
    ErrorCode : Integer;
    CommandLine : String;
    Result : Integer;
    NetlistName : String
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','Netlist');
    AddIntegerParameter('Index',5);
    AddStringParameter('ReturnGeneratedDocuments', 'True');
    RunProcess('WorkspaceManager:GenerateReport');
    GetIntegerParameter('Result', Result);
    If Result = 0 Then Exit;
    NetListName := GetStringParameter('File1', Result);
End;
```

GetLongIntParameter

Declaration

Procedure GetLongIntParameter(Const Name: String; Var Value: LongInt);

Description

The GetLongIntParameter procedure retrieves the value of a long int type parameter from the parameter buffer. This procedure after a process has been executed can return a resultant long int type value.

GetSingleParameter

Declaration

Procedure GetSingleParameter(Const Name: String; Var Value: Single);

Description

The GetSingleParameter procedure retrieves the value of a single type parameter from the parameter buffer. This procedure after a process has been executed can return a resultant single type value.

GetStringParameter

Declaration

Procedure GetStringParameter(Const Name: String; Var Value: String);

Description

The GetSingleParameter procedure retrieves the value of a string type parameter from the parameter buffer. This procedure after a process has been executed can return a resultant string type value.

Example

```
Var
    ErrorCode : Integer;
    CommandLine : String;
    Result : Integer;
    NetlistName : String
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','Netlist');
    AddIntegerParameter('Index',5);
```

```
    AddStringParameter('ReturnGeneratedDocuments', 'True');
    RunProcess('WorkspaceManager:GenerateReport');
    GetIntegerParameter('Result', Result);
    If Result = 0 Then
        Exit;
    NetListName := GetStringParameter('File1', Result);
End;
```

GetWordParameter

Declaration

Procedure GetWordParameter(Const Name: String; Var Value: Word);

Description

The GetWordParameter procedure retrieves the value of a word type parameter from the parameter buffer. This procedure after a process has been executed can return a resultant integer value.

ResetParameters

Declaration

Procedure ResetParameters;

Description

The ResetParameters procedure clears the parameter buffer. Execute the procedure to reset the parameter buffer before setting parameters used by a process.

When you use any of the Add...Parameter procedures, the parameter declared is appended to the parameter buffer. When you run a process, any parameters that need to be passed to the process are read from the parameter buffer. Running a process, however, DOES NOT clear the parameter buffer. Therefore, it is important to use the ResetParameters procedure to clear the buffer of old values before placing a new series of parameters into the buffer.

Example in Delphiscript

```
Var
    ErrorCode : Integer;
    CommandLine : String;
    Result : Integer;
    NetlistName : String
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','Netlist');
    AddIntegerParameter('Index',5);
    AddStringParameter('ReturnGeneratedDocuments', 'True');
    RunProcess('WorkspaceManager:GenerateReport');
    GetIntegerParameter('Result', Result);
    If Result = 0 Then
        Exit;
    NetListName := GetStringParameter('File1', Result);
End;
```

RunProcess

Declaration

Procedure RunProcess(Const Command: String);

Description

The RunProcess procedure allows you to execute a Altium Designer or server process. If the process invoked by this extension requires parameters to be passed to it, you must add the parameters to the parameter buffer using the Add...Parameter functions before running the process.

If the process returns values, these will be placed in the return buffer and can be read using the Get...Parameter functions.

The Command string takes on the following form: Server:Process

where Server is the name of the server the process is supplied by, and Process is the command name of the process. An example PCB:Zoom

Example in Delphiscript

```
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','Netlist');
    AddIntegerParameter('Index',5);
    AddStringParameter('ReturnGeneratedDocuments', 'True');
    RunProcess('WorkspaceManager:GenerateReport');
End;
```

Scripting System Commands

This section covers the Scripting processes and their parameters (if any).

RunScript Process

Description

This process is to used to run a script from the Run Process dialog (DXP » Run Process). There are two parameters in this case: the ProjectName and the ProcName. For the ProcName parameter, you need to specify the script filename and the main procedure in this script. So the format is as follows: ProcName = ScriptFileName>ProcedureName. Note the GreaterThan symbol used between the script file name and the procedure name.

Parameters

ProjectName (string) Full path to the script project.

ProcName (string) A string containing two blocks separated by the Greater Than symbol. The first block is the script file name, and the second block is the procedure name within this script file.

Example

Process: ScriptingSystem:RunScript

Parameters : ProjectName = C: Program Files\Altium Designer\Examples\Scripts\DelphiScript Scripts\General\HelloWorld.PrjScr | ProcName = HelloWorldDialog>RunHelloWorld

RunScriptFile process

Description

Execute a DelphiScript unit script from DXP (with a pas extension). Note, only DelphiScript unit scripts can be used - not these scripts that have forms.

Parameters

FileName (String) The path to a DelphiScript file (not the script project).

ProcName (String) The procedure name within the DelphiScript file.

Example

Process: ScriptingSystem:RunScriptFile

Parameters : FileName = c:\scripts\testascript.pas | ProcName = ProcedureName

RunScriptText process

Description

This process can be used to execute a series of commands within the Begin End; block.

Parameters

Text (String)

Example

Process: ScriptingSystem:RunScriptText

Parameters : Text = Begin RunApplication('notepad.exe'); End;

Client Commands – System Processes

This section covers the Client (System) processes and their parameters (if any).

ArrangeAllWindows process

Description

The ArrangeAllWindows process can arrange opened windows (documents) in DXP horizontally or vertically.

Parameters

How (Horizontally, Vertically)

Example

Process: Client:ArrangeAllWindows

Parameters : How = Vertically

CascadeAllOpenWindows process

Description

The CascadeAllOpenDocuments process is not implemented

Parameters

N/A

ChangeTransparency process

Description

The ChangeTransparency process controls the transparency of floating windows.

Parameters

Action (Toggle, On)

If the Action parameter is set to Toggle, the status of the transparency of floating windows in DXP is toggled. If parameter is set to On, the floating windows become transparent when cursor is hovering near.

Example

Process: Client:ChangeTransparency

Parameters : Action=Toggle

CustomizeResources process

Description

The CustomizeResources process allocates menus, shortcut keys and toolbar resources for current Editor. You can also toggle the visibility of certain panels, such as New Document, Differences List and Message List panels.

Parameters

Action (Toggle, Show)

ObjectKind (Panel, Window,Tree)

Index (1..20)

ID
(TNewDocumentForm,TProjectGroupForm,TCompiledProjectForm,TCompiledErrorForm,TMessageListForm,TDifferencesListForm, TLSchematicTools, TLWiringTools,PowerObjects, DigitalObjects, TLAdvSimTools, TLSignalIntegrity, TLSimulationSources, TLSchLibTools, TLSChLibIEEETools, TLSchLibDrawingTools, SchObjectInspector, Filter, SchLibObjectInspector, LibFilter, LibraryBrowser, TSchLibPanel)

Example

Process: Client:CustomizeResources

Parameters: Action = Show | ObjectKind = Window

Favorites

Description

The Favorites process displays the Favorites view in DXP.

Parameters

N/A

Example

Process: Client:Favorites

HelpAbout process

Description

The HelpAbout process displays the About dialog with the version number and copyright of DXP.

Parameters

N/A

Example

Process: Client:HelpAbout

Licensing process

Description

The Licensing process invokes the Licensing dialog where you can setup or modify the license for the current copy of your DXP application.

Example

Process: Client:Licensing

Navigate process

Description

The Navigate process is used to navigate or open documents in the DXP application.

Parameters

EditorKind (HistoryCombo, DropDown)

EditorWidth (Integer)

Mode (Go, Back, Forward, Stop, Refresh, Home)

Address (String). File name or URL of the document.

Opening a PDF based document example

```
Process: Client : Navigate
Parameters: Mode = Go | Address = c:\dxp\help\AR0125 Honey, I Shrunk the Board.pdf
```

Opening a web page example

```
Process: Client : Navigate
Parameters: Mode = Go | Address = http://www.altium.com
```

QuitFromEDAClient process

Description

The QuitFromEDAClient process closes the current DXP application

Parameters

N/A

Example

Process: Client:QuitFromEDAClient

RestoreLayout process

Description

The RestoreLayout process restores the DXP desktop from a layout configuration file. Also accessed as a View » Desktop Layouts menu item on the DXP menu.

Parameters

Type (Startup, Default)

The Default parameter denotes the DXP default layout. The Startup parameter denotes the current saved layout.

Index (1..n)

Index = 1..n is one of the DXP Workspace layout files.

RunCommonDialog process

Description

The RunCommonDialog process is used to execute a DXP dialog such as Color dialog, File Open and File Save dialogs. The dialog when invoked also returns values such as the path of the file selected, whether dialog Ok or Cancel button clicked etc.

Parameters

Dialog (String)

Mode (0..4)

0 = OpenFile dialog, 1 = File Save As dialog, 2 = Open File List, 3 = Open Document dialog, 4 = Open Expand List.

Path (String)

Prompt (String)

DocumentType (String)

SelectedType (String)

FileType1..FileTypeN (String)

File1..FileN (String)

Parameters returned from DXP after running the process.

Result (Boolean).

If the result returned is false, then all other parameters are not returned.

Path (String)

DocumentType (String)

SelectedType

FileX (String)

Where X = 1..n.

Example

```
Process: Client:RunCommonDialog
Parameters : Dialog = FileOpenSave | Mode = 1 | Prompt = “Select a document and then click ok”
```

Example using Delphiscript

```
Var
  Path : String;
Begin
  ResetParameters
  AddStringParameter "Dialog", "FileOpenSave"
  AddStringParameter "Mode", "1"
  AddStringParameter "Prompt", "Select a document then click OK"
  RunProcess "Client:RunCommonDialog"
  GetStringParameter "Path", Path
End;
```

RunProcess process

Description

The RunProcess process executes a process in DXP depending on the specified ProcessName and Parameters parameters.

Parameters

ProcessName (String)

The name of the process to execute.

Parameters (String)

The parameter and one of its specified parameter value for the process to be executed. Example Action = All where Action is the parameter and the All is the parameter value for the Zoom process.

SaveLayout process

Description

The SaveLayout process saves the current DXP workspace layout as a layout file. Also accessed as a **View » Desktop Layouts** menu item on the DXP menu.

SetupEdaServers processs

Description

The SetupEDAServers process invokes the EDA Servers dialog, where you can obtain more information about the installed servers.

Example

Process: Client:SetupEdaServers

SwitchDocumentAndPanel process

Description

The SwitchDocumentAndPanel process switches the focus between a panel and its associated active document in DXP.

Example

Process: Client:SwitchDocumentAndPanel

SwitchViews process

Description

The SwitchViews process opens the next or previous open (tabbed) window in DXP

Parameters

ViewKind (Editor)

This ViewKind parameter views certain types of documents. In this case, the Editor type denotes the editor documents such as Schematic, PCB documents.

Direction (Forward, Back)

If Direction is specified to be Forward, then the next document is displayed. Otherwise the previously tabbed document (the document behind the current document) is displayed. To tab to the next window, the short cut keys are Shift Ctrl TAB.

Example

Process: Client:SwitchViews

Parameters : ViewKind=Editor | Direction = Forward

TileAllOpenDocuments process

Description

The TileAllOpenDocuments process tiles all open documents in the DXP depending on which direction the tiling process is.

Parameters

Mode (Horizontal, Vertical)

If the parameter is not set, all open documents in DXP are tiled optimally. If parameter is set to horizontal, then all documents are tiled horizontally, otherwise all documents are tiled vertically if the parameter is set to vertical.

Example

Process: Client:TileAllOpenDocuments

Parameters : Mode = Horizontal

ToggleClientStatusBar process

Description

The ToggleClientStatusBar process toggles the Command Status Bar on or off on the status section of DXP.

Example

Process: Client:ToggleClientStatusbar

ToggleFloatingToolbars process

Description

This ToggleFloatingbars process toggles the visibility of Floating panels in DXP when switching to different applications other than DXP.

Parameters

Kind (Panels)

ToggleProcessStatusBar process

Description

The ToggleProcessStatusBar process toggles the Command Status Bar on or off on the status section of DXP.

Example

Process: Client:ToggleProcessStatusbar

FPGA Flow Processes

This section covers the FPGAFlow processes and their parameters (if any).

Configure

Description

The Configure process can configure a device list, synchronize with hard devices or nanoboards, edit the Nexar Workspace preferences, remove the current hard device, add a hard device or edit the current hard device.

Parameters

Action (EditDeviceList, SynchronizeWIthHardWare, SynchronizeWithNanoBoards, EditPreferences, RemoveCurrentHardDevice, AddHardDevice, EditCurrentHardDevice).)

Example

Process: FPGAFlow:Configure

Parameters : Action = EditPreferences

CurrentCoreCombo

Description

The CurrentCoreCombo process views and can change the current core in a FPGA project.

Example

Process: FPGAFlow:CurrentCoreCombo

DeviceAction

Description

The DeviceAction process can do a variety of device action tasks depending on the parameters supplied. For example, resetting all devices, pausing the processor, continuing the processor, single step in the processor code, download program to all on chip processors.

Parameters

Target (BoardDevice, HardDevice, HardChain, SoftChain)

Action (ShowAboutDialog, ShowViewer, ResetDevice, ChooseAndDownload, ResetDevice, PauseProcessor, ContinueProcessor, ResetProcessor, SingleStepProcessor, DownloadProgram)

Index (integer)

Command Example

Process: FPGAFlow:DeviceAction

Parameters : Target = SoftChain | Action = PauseProcessor

Script Example

```
Procedure ShowInstrument(AIndex : Integer);
Begin
    ResetParameters;
    AddStringParameter('Target', 'SoftDevice'    );
    AddStringParameter('Action', 'ShowViewer'    );
    AddStringParameter('Index' ,  IntToStr(AIndex));
    RunProcess('FPGAFlow:DeviceAction');
End;

Procedure ShowAllInstruments;
Var
    DeviceIndex    : Integer;
    NexusWorkBench : INexusWorkbench;
Begin
    NexusWorkBench := GetNexusWorkbench;
    If NexusWorkBench = Nil Then Exit;
    If NexusWorkBench.GetSoftDeviceCount > 0 Then
        Count := NexusWorkBench.GetSoftDeviceCount;

    For DeviceIndex := 1 to Count Do
        ShowInstrument(DeviceIndex);
End;
```

FlowAction

Description

The FlowAction process can compile or rebuild a current hard device file and download to device if necessary or stop the current process flow actions.

Parameters

Action (CompileHardDeviceFile, RebuildHardDeviceFile, CompileHardDeviceFileAndDownLoad, RebuildHardDeviceFileAndDownLoad, DownloadExistingHardDeviceFiles, CompileAllHardDeviceFiles, RebuildAllHardDeviceFiles, CompileAllHardDeviceFilesAndDownload, RebuildAllHardDeviceFilesAndDownload, DownloadAllExistingHardDeviceFiles, StopHardDeviceFlow)

Example

Process: FpgaFlow:FlowAction

Parameters : Action = StopHardDeviceFlow

RunDiagnostic

Description

The RunDiagnostic process depending on the action parameter can be invoked to scan a hard device chain, soft device chain, nanoboard chain, test cable connections, run the parallel port debugger or refresh the status of hard and soft devices.

Parameters

Action (ScanFpga, ScanNexusChain, ScanNanoBoardChain, TestCableConenctions, ParallelPortDebugger, RefreshStatus)

Example

Process: FPGAFlow:RunDiagnostic

Parameters : Action = RefreshStatus

Integrated Library Processes

This section covers the Integrated Library processes and their parameters (if any).

AddRemoveLibraries

Description

The AddRemoveLibraries process invokes the Available Libraries dialog allowing you to move up or down the order of installed libraries and add or remove installed libraries.

Parameters

N/A

FindComponent

Description

The FindComponent process invokes the Search Libraries dialog and you can define the search criteria to narrow the search for specific components in libraries.

Parameters

N/A

GenerateComponentReport

Description

Generates a report of components from the current library.

Parameters

N/A

PlaceCurrent

Description

The PlaceCurrent process places a currently selected component onto a document.

Parameters

N/A

See also

PlaceLibraryComponent process

Integrated Library Processes

PlaceLibraryComponent

Description

The PlaceLibraryComponent places a schematic, PCB or Integrated Library component from a specified library onto a current document (SCH or PCB documents).

Parameters

LibReference (String)

Library (String)

ModelType (String)

ModelParameterName0 (String)

ModelParameterValue0 (String)

Orientation (0..3)

Example 1

Process: IntegratedLibrary:PlaceLibraryComponent

Parameters : LibReference=SN74F04D |Library=Texas Instruments\TI Logic Gate 2.IntLib|Orientation=0

Example 2

Process: IntegratedLibrary:PlaceLibraryComponent

Parameters : LibReference=CAP POL1 |Library=Miscellaneous Devices.IntLib |ModelType=SIM| ModelParameterName0=Value|ModelParameterValue0=10uF | Orientation=1

RefreshInstalledLibraries

Description

The RefreshInstalledLibraries process refreshes a current installed library or all installed libraries in DXP to bring them up to date.

Parameters

AllLibraries (True,False)

Example

Process: IntegratedLibrary:RefreshInstalledLibraries

Parameters : AllLibraries=True

PCB Processes

This section covers the PCB processes and their parameters (if any).

Table of PCB processes

AlignComponents process	HideConnections process	PrimitiveSelect process
ArrangeComponents process	IdentifyNet process	PrintDocument process
ApertureLibrary process	Import process	ReAnnotate process
AutopositionComponentTexts process	Jump process	Redo process
AutoRoute process	LastComponent process	ReportBoardSpecs process
BoardInformation process	LibraryBrowse process	ReportBOM process
BreakTrack process	ListAllSelectedPins process	ReportNetlistStatus process
ChangeComponentName process	ListComponents process	ReportPickPlace process
ChangeObject process	ListInternalPlanePins process	ResetAllErrorMarkers process
Clear process	ListNets process	ResetOrigin process
ComponentRuleCheck process	ManualRoute process	RotateSelectedObjects process
ConvertSelected process	MeasureDistance process	RunQuery process
Copy process	MeasureSelectedObjects process	RunQueryBuilder process
CopyComponent process	MoveAllComponentsToGrid process	RunScissors process
CrossProbeChoose process	MoveCursor process	Select process
CrossProbeNotify process	MoveObject process	SelectionMemory process
Cut process	Netlist process	SetComponentReference process
DeleteComponentFromLibrary process	NextComponent process	SetCurrentLayer process
DeleteObjects process	OutlineSelectedObjects process	SetOrigin process
DensityMap process	Paste process	Setup process
DeSelect process	PasteComponent process	SetupPreferences process
DesignRuleCheck process	PinSwap process	SetupPrinter process
DocumentPreferences process	PlaceArc process	ShowApplicableRules process
EditClasses process	PlaceBoardOutline process	ShoveComponents process
EditFromTo process	PlaceComponent process	ShowConnections process
	PlaceComponentFromLibraryEditor process	ShowNetlistLength process
	PlaceComponentsFromFile process	SnapGrid process
		TearDropSelectedPads process
		ToggleSelection process

EditInternalPlanes process	PlaceCoordinate process	Undo process
EditRules process	PlaceDimension process	UnRoute process
EngineeringChangeOrder process	PlaceFill process	UpdateFootprints process
EqualizeNetLengths process	PlacePad process	UpdateRotationOnSelectedComponents process
ExplodeComponent process	PlacePolygonPlane process	Zoom process
Export process	PlaceRoom process	
Fanout process	PlaceSplitPlane process	
FilterSelect process	PlaceString process	
FindTestPoints process	PlaceTrack process	
FirstComponent process	PlaceVia process	
FlipSelectedObjects process	PreviousComponent process	
GotoLibraryComponent process		
GroupPrimitives process		

AlignComponents process

Description

The AlignComponents process aligns selected objects on a PCB document using specified parameters. There are different alignment parameters.

Parameters

*Alignment (*MoveComponentsToGrid, MoveRoomsToGrid, Bottom, Left, Right, Top, CenterHorizontal, CenterVertical, ExpandHorizontal, ExpandVertical, ContractHorizontal, ContractVertical, SpreadHorizontal, SpreadVertical).

If no parameters supplied, the Align Components dialog appears.

Example

Process: PCB:AlignComponents

Parameters : Alignment = CenterHorizontal

ArrangeComponents process

Description

Re arrange components within a room, rectangle, outside the board on a PCB document.

Parameters

Action (ArrangeWithinRoom, ArrangeWithinRectangle, ArrangeOutsideBoard)

Example

Process: PCB:ArrangeComponents

Parameters : Alignment = ArrangeWithinRoom

AutopositionComponentTexts process

Description

The AutopositionComponentTexts process auto positions component texts on the current PCB document

Parameters

TextType (Name, Comment)

If TextType value is not specified or invalid, then the Autoposition dialog appears.

*Autoposition (*LEFT-ABOVE, LEFT-CENTER, LEFT-BELOW, CENTER-ABOVE, CENTER-CENTER, CENTER-BELOW, RIGHT-ABOVE, RIGHT-CENTER, RIGHT-BELOW)

Autoroute process

Description

Perform an autoroute of the PCB board, or a section of the PCB board, or by a specified net etc. You can also save the current routing process and exit from DXP.

Parameters

Action (Start,Net,Connection,Component,SingleComponent,Area,Room,SingleRoom,Setup,Stop,Reset,Pause,Restart, ExportRoutes)

SeeFile (RenameDSN). If Action=ExportRoutes, you need to specify the SeeFile parameter.

Notes

If SingleComponent value is specified for the Action parameter, you will need to specify the ContextObject which is usually Component

If SingleRoom value is specified for the Action parameter, you will need to specify the ContextObject which is usually Room.

Example

Process: PCB:AutoRoute

Parameters : Action=Setup

BoardInformation process

Description

Generates a board information report based on the current PCB or PCB library document.

Parameters

N/A

Example

Process: PCB:BoardInformation

BreakTrack process

Description

Breaks a whole focussed track into track segments on a PCB document.

Parameters

N/A

Example

Process: PCB:BreakTrack

ChangeComponentName process

Description

Renames a component name and some of its properties.

Parameters

N/A

Example

Process: PCB:ChangeComponentName

ChangeObject process

Description

Obtains object properties dialog where you can change the properties for the object on a PCB document.

Parameters

Action (RepourAllPolygons, RepourSelectedPolygons,RepourSinglePolygon)

If ContextObject = Polygon, then only these selected polygons will be repoured.

Example

Process: PCB:ChangeObject

Parameters : ContextObject = Polygon | Action=RepourAllPolygons

Clear process

Description

The Clear process is used to remove the selected objects from the current PCB document. The objects in the clipboard are not affected.

Parameters

N/A

ComponentRuleCheck process

Description

Checks whether components of a current PCB library are valid.

Parameters

N/A

Example

Process: PCB:ComponentRuleCheck

ConvertSelected process

Description

Convert either selected pads to vias or selected vias to pads.

Parameters

Action (PadsToVias, ViasToPads)

Example

Process: PCB:ConvertedSelected

Parameters : Action = ViasToPads

Copy process

Description

The Copy process is used to copy all selected objects to the clipboard. The Paste process can be used to place a copy of the selection back into any PCB document. However Copy with the Action=RoomFormat parameter can be used to copy a room format to other similar rooms.

Parameters

Action = RoomFormat

Example

Process PCB:Copy

CopyComponent process

Description

Copy a library component from a PCB library document which can be pasted as new components.

Parameters

N/A

Example

Process: PCB:CopyComponent

CrossProbeChoose process

Description

Cross probes or references a selected text string (such as a net identifier) in a linked document such as a schematic document from a PCB document.

Parameters

N/A

Example

Process: PCB:CrossProbeChoose

Cut process

Description

Cuts a selected object permanently from the PCB into the Clipboard. The original object that is cut is erased.

Parameters

N/A

Example

Process: PCB:Cut

DeleteComponentFromLibrary process

Description

Removes a currently focussed library component from the PCB library.

Parameters

N/A

Example

Process: PCB:DeleteComponentFromLibrary

DeleteObjects process

Description

The DeleteObjects process deletes any object from the current PCB document whether the objects are focussed or you are prompted to delete depending on the parameters.

Parameters

Object (Prompt, Focused)

Example

Process: PCB:DeleteObjects

Parameters : Object = Prompt

DensityMap process

Description

Obtains the density of the nets of a PCB document. The different colors indicate how dense the nets are within the regions of a PCB document.

Parameters

N/A

Example

Process: PCB:DensityMap

Deselect process

Description

The Deselect process is used to de-select objects in the current PCB and library editor window. Using parameters, all objects in the current document may be de-selected, all objects of a certain kind, objects inside or outside a specified area, all free objects, or all objects on a specific layer.

Parameters

Scope (All, InsideArea, OutsideArea, Free, Layer)

Defaults to All if no parameters are specified

InsideArea (Location1.X, Location1.Y, Location2.X, Location2.Y)

All four parameters must be supplied as integers otherwise you are prompted to define the select rectangle.

OutsideArea (Location1.X, Location1.Y, Location2.X, Location2.Y)

All four parameters must be supplied as integers otherwise you are prompted to define the select rectangle.

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1,Mechanical2,Mechanical3,Mechanical4,Mechanical5,Mechanical6,Mechanical7,Mechanical8,Mechanical9,Mechanical10,Mechanical11,Mechanical12,Mechanical13,Mechanical14,Mechanical15,Mechanical16,Mid1,Mid10,Mid11,Mid12,Mid13,Mid14,Mid15,Mid16,Mid17,Mid18,Mid19,Mid20,Mid21,Mid22,Mid23,Mid24,Mid25,Mid26,Mid27,Mid28,Mid29,Mid30,Mid2,Mid3,Mid4,Mid5,Mid6,Mid7,Mid8,Mid9,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1,Plane2,Plane3,Plane4,Plane5,Plane6,Plane7,Plane8,Plane9,Plane10,Plane11,Plane12,Plane13,Plane14,Plane15,Plane16, Toppaste,Topsolder)

However, you can only place arcs on available used layers of the current PCB document. The layer list is a list of all possible layers that the PCB editor can support. If no layer is specified then this process defaults to the current layer.

DesignRuleCheck process

Description

Either run the design rule checker to check the integrity of PCB rules on a PCB board, or obtain information on violations of the current PCB board.

Parameters

InspectViolation (True, False).

Defaults to false. If True, and Index not specified, all violations are shown.

Index (1..n)

Specify which violation to display. If no value supplied, all violations are shown.

Example

Process: PCB : DesignRuleCheck

Parameters : InpsectViolation = True | Index = 1

DocumentPreferences process

Description

The DocumentPreferences process is used to define various PCB and library document settings, such as active layers, display options and other options.

Parameters

ChangeFromLegacyToDXPPlaneMode (True, False)

Change from legacy mode to DXP plane mode when importing from legacy designs and updating them.

Tab (LayerStack, DrillPairs, Mechanical, Layers, Sheet, Options,Grid)

When Tab is set to one of the four values, the appropriate dialog is displayed, for example, Tab = LayerStack, the Layer Stack manager dialog is invoked and displayed. Tab = Options, Library Options dialog appears. Defaults to empty which means that a Board Options dialog appears.

TopSignal, BottomSignal, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste, Bottomsolder, Drilldrawing, Drillguide, Keepout, Mechanical1..16 , Mid1..30, Bottompaste, Bottomsolder, Drilldrawing, Drillguide, Plane1..16, Toppaste, Topsolder, Drcerrors, Selections, Visiblegrid1x, Visiblegrid10x, Padholes, Viaholes (True, False, Toggle)

One of the three states sets the display status of the specified layer. If true, the specified layer is displayed, if false, the layer is not displayed. If the Toggle parameter is used, the display status of the layer is toggled.

SnapGrid (Real)

Denotes the snap grid. X and Y sizes are the same. The snap grid is used to define the alignment grid for manual movement and placement.

SnapGridX Real

Denotes the snap grid X size (horizontal value set),

SnapGridY Real

Denotes the snap grid Y size (vertical value set).

ComponentGrid (Real)

The ComponentGridSize is set in mils. (note that X and Y values are set the same).

ComponentGridX (Real)

Denotes the component grid X size.

ComponentGridY (Real)

Denotes the component grid Y size.

RoutingTrackGrid (Real)

Denotes the track grid size.

RoutingViaGrid (Real)

Denotes the track grid size.

VisibleGrid1 (Real)

Denotes the size of the first visible grid size in mils.

VisibleGrid2 (Real)

Denotes the size of the second visible grid size in mils.

ElectricalGridRange (Real)

Denotes the electrical grid size.

ElectricalGridEnabled (True, False, Toggle)

Denotes whether the electrical grid is enabled or not.

MeasurementUnit (Imperial, Metric, Toggle)

This denotes the default measurement units for the current PCB document. Defaults to imperial units. The default units are used to display any distance related information on screen or in reports. They are also used if units are not specified when editing a distance value in an object dialog field. The Toggle value changes from one unit to the other.

*VisibleGridKind (*Dots,Lines, Toggle)

Denotes the visible grid type on the PCB document.

ShowSheet True, False, Toggle

Denotes whether to display the sheet behind the PCB document.

MaskLevel Increase, Decrease

When the INCREASE parameter is applied, the MaskLevel is increased by one unit and when DECREASE parameter is applied, the MaskLevel is decreased by one unit.

Example

Process: PCB:DocumentPreferences

Parameters : ShowSheet = Toggle

EditClasses process

Description

Display ObjectClasses dialog and you can manipulate object classes.

Parameters

N/A

Example

Process: PCB:EditClasses

EditRules process

Description

Displays the PCB design rules where you can manipulate and create new PCB rules.

Parameters

N/A

Example

Process: PCB : EditRules

EngineeringChangeOrder process

Description

Not implemented.

Parameters

N/A

EqualizeNetLengths process

Description

Equalize or make net lengths similar where possible in consideration of signal runs on a PCB document.

Parameters

N/A

Example

Process: PCB:EqualizeNetLengths

Export process

Description

This Export process exports a current PCB document data into a different file format to be used in other applications other than DXP.

Parameters

Format (PROTEL NETLIST, SPECCTRA DESIGN, DXF, HYPERLINX, IPC, NETLIST, SHAPE, SELECTED)

Filename (String)

Denotes the full path and filename of the PCB document to be exported.

Example

Process: PCB:Export

Parameters: Format = HyperLynx | FileName = PCBBoard.PCBDoc.

This automatically exports a file called PCBBoard.PCBDoc to the current directory in HyperLynx format.

Fanout process

Description

Fanout process attempts to improve the quality of routing by arranging the pads and their tracks in a predetermined order.

Parameters

Action = (All, PowerPlaneNets, SignalNets, Room, Component, Selected, Net, Connection, Pad, SingleComponent, SingleRoom).

If SingleRoom or SingleComponent values used, then specify the value (Room, Component) for the ContextObject parameter as well.

Example

Process: PCB:Fanout

Parameters : Action = All

FilterSelect process

Description

Perform one of the many filtering processes and display the PCB Filter panel.

Parameters

Edit (True, False)

True to display the PCB FIlter panel.

Value (valid expression string)

Value = a valid expression or expressions.

Notes

Take note of the underscores _ for the _Edit_ and _Value_ name parameters.

Examples

Process: PCB:FilterSelect

Parameters : _Value_=IsTrack and OnBottom”

FindTestPoints process

Description

Find test points on a current PCB document or remove all test points from this PCB document. A testpoint is a point on a net that can be used for electrical continuity testing.

Parameters

Action (ClearAllTestPoints, '')

If no parameter supplied, test points are created.

Example

Process: PCB:FindTestPoints

Parameters: Action = ClearAllTestPoints

FirstComponent process

Description

Go to the first component in the library editor.

Parameters

N/A

Example

Process: PCB:FirstComponent

FlipSelectedComponents process

Description

Flip selected components across the axis (like a mirror).

Parameters

N/A

Example

Process: PCB:FlipSelectedComponents

GotoLibraryComponent process

Description

The GotoLibraryComponent process is used to go to the specified component in the specified library document in the Library Editor.

Parameters

FileName (String) The full path and file name of the library to be opened.

Footprint (String) Specifies the footprint.

GroupPrimitives process

Description

Group free primitives to an existing component on the current PCB document. You can also convert a group object into a set of free primitives, or create/break unions of components depending on parameters. Using component unions, unions are sets of components that you want to work as a block. The components in a union maintain their relative positions within the union as they are moved.

Parameters

Action (Explode, CreateComponentUnion, BreakComponentUnion, BreakAllComponentUnions).

If Action = Explode then use the following parameters;

Object (Component, Coordinate, Dimension, Polygon)

By default, free selected primitives are grouped into a component you have selected.

ContextObject (Polygon, Component)

To explode a single polygon or component, you need to specify the ContextObject.

Example

Process: PCB:GroupPrimitives

Parameters: Action=Explode | Object=Component

HideConnections process

Description

The HideConnections process is used to hide ratsnest connections for unrouted nets in the current PCB document.

Parameters

Hide (All, Net, ComponentNets)

All: Hides all ratsnest connections; Net: Hides a specified net and you will be prompted to choose which net to hide.

ComponentNets: Hides nets connected to components only.

IdentifyNet process

Description

The IdentifyNet process is used to display the net name for a chosen ratsnest connection or any object that belongs to a net on the status bar.

Parameters

N/A

Example

Process: PCB:IdentifyNet

Import process

Description

This Import process imports a document data of a different file format into a current PCB document in DXP.

Parameters

Format (PROTEL NETLIST, SPECCTRA DESIGN, DXF, HYPERLINX, IPC, NETLIST, SHAPE, SELECTED)

Filename (String)

Denotes the full path and filename of the PCB document to be imported.

Example

Process: PCB:Import

Parameters: Format = HyperLynx | FileName = PCBBoard.PCBDoc.

This automatically imports a file called PCBBoard.PCBDoc to the current directory.

Jump process

Description

The jump process can be used to jump to the reference point of a component, or jump to a selected primitive or group of primitives. You can also place up to 10 location markers and jump to one of them.

Parameters

Object (Relative, Selected, Absolute, Location, Component, Net, Pad, String, DRCError,JumpToLocation1, JumpToLocation2, JumpToLocation3,JumpToLocation4,JumpToLocation5,JumpToLocation6,JumpToLocation7,JumpToLocation8,JumpToLocation9,JumpToLocation10, PlaceLocation1, PlaceLocation2,PlaceLocation3,PlaceLocation4,PlaceLocation5,PlaceLocation6,PlaceLocation7,PlaceLocation8,PlaceLocation9,PlaceLocation10)

Type (First, Previous, Next, Last, FirstGroup, PreviousGroup, NextGroup, LastGroup)

Jump to first, previous, next or last selected primitive or group only if Object = Selected.

Notes:

Relative: the jump process jumps to the reference point of the component

Selected: depending on the Type parameter, the Jump process jumps to a selected primitive or a selected group of primitives.

Absolute: jump to the absolute origin

Location: jump to the specified location

Component: jump to the specified component

Net: jump to the specified net

Pad: jump to the specified pad

String: jump to the specified string object

DRCError, jump to the specified string object.

To define a location marker (1..n), execute a jump process with a location marker and then click on the screen to define the coordinates. To jump to this defined marker, execute the jump process with a JumpToLocationX parameter.

Example

Process: PCB:Jump

Parameters : Object = Selected | Type = First

LastComponent process

Description

The LastComponent process is used to go to the last component in the current library document when in the Library Editor.

Parameters

N/A

Example

Process: PCB:LastComponent

LibraryBrowse process

Description

Used to graphically browse through the currently listed PCB libraries. The Library browse dialog box also allows placement of components.

Parameters

N/A

Example

Process: PCB:LibraryBrowse

ListAllSelectedPins process

Description

The ListAllSelectedPins process is used to list the component label and pin designators for all selected pads in the current PCB document. Entries are sorted by component designator then pad designator (e.g. U1-16).

Parameters

N/A

Example

Process: PCB : ListAllSelectedPins

ListComponents process

Description

The ListComponents process is used to generate a report listing all components placed on the current document. Components are listed by designators and comments. The report is automatically loaded and opened in the Text Editor.

Parameters

N/A

Example

Process: PCB:ListComponents

ListInternalPlanePins process

Description

This process when executed can display information for an internal plane in DXP. Only the first four (1-4) internal planes can be listed.

Parameters

InternalPlane (1..4)

Possible values include 1,2,3,4. Only can display internal planes 1 to 4. Otherwise the Power Pins information dialog appears.

Example

Process: PCB:ListInternalPlanePins

Parameters : InternalPlane=4

ListNets

Description

This process when executed displays nets information in a Nets Information dialog for the currently focussed PCB document.

Parameters

N/A

ManualRoute process

Description

Place a series of tracks to complete a connection from a pad to another pad.

Parameters

mode (line, '')

keepout (true, false)

Notes

By default, interactive router is active when no parameters are supplied. To place a line, mode = line. To place a track (signal aware), mode = line | keepout = true.

Example

Process: PCB : ManualRoute

Parameters: mode = line | keepout = true.

MeasureDistance process

Description

Used to measure and display the distance between any two points on the PCB document. The measured distance will be displayed using the current units (mils or mm).

Parameters

SnapToGrid (True,False) Defaults to True

Repeat (True,False) Defaults to True

Primitives (True,False) Defaults to False. When Primitives is true, you are prompted to click on two primitives.

Example

Process: PCB:MeasureDistance

Parameters : Primitives = True

MeasureSelectedObjects process

Description

Used to calculate the total physical connection length of selected tracks within the current PCB document. Arcs will be included in the calculation (if selected), however the end point diagonal distance will be calculated, not the chord.

Parameters

N/A

Example

Process: PCB:MeasureSelectedObjects

MoveAllComponentsToGrid process

Description

Move all components to a specified grid.

Parameters

Grid (Real) Specifies the grid value to move components to. If no parameters are used then a dialog box will prompt for a value.

GridX(Real) Specifies the grid X value to move components to. If no parameters are used then a dialog box will prompt for a value.

GridY(Real) Specifies the grid Y value to move components to. If no parameters are used then a dialog box will prompt for a value.

Example

Process: PCB:MoveAllComponentsToGrid

Parameters : Grid = 20

MoveCursor process

Description

Move a cursor across a PCB document programmatically.

Parameters

Position (Up10, Down10, Left10, Right10, Up, Down, Left, Right);

Notes

Up10 = Up 10 snap grid units. Up = Up 1 snap grid unit.

Example

Process: PCB:MoveCursor

Parameters : Position = Up

MoveObject process

Description

Move a specified group of objects across a PCB document.

Parameters

Drag (True, False)

Object = (Component, Reroute, TrackEnd, Selection, PolygonVertices, Polygon, BoardOutlineVertices, BoardOutline, SheetAutoposition, Selection, Room, Room_Vertices,)

*ContextObject (*Component, Polygon,Room).

Notes

If TrackEnd, then the end of the track segment is repositioned. For the BoardOutlineVertices, you are prompted to edit the boardoutline, for the BoardOutline, you are prompted to move the outline.

Example

Process: PCB:MoveObject

Parameters : Object = Drag

Netlist process

Description

Execute this process to edit nets, update free objects from nets, clear all nets, export netlist etc.

Parameters

Action (EditNets, UpdateFreePrimitiveNets, ClearAllNets, ExportNetlistFromPCB, CreateNetlistFromConnectedCopper, CleanupNets, CleanUpSingleNets, AnalyseSingleNets)

Example

Process: PCB:Netlist

Parameters: Action = EditNets

NextComponent process

Description

Go to the next component within the opened PCB library in the library editor.

Parameters

N/A

Example

Process: PCB:NextComponent

Paste process

Description

Paste the contents from the clipboard onto the current PCB board.

Parameters

Mode (Special)

OnCurrentLayer (True, False)

If pasting on the current layer, specify true.

Array(True,False)

If pasting an array of objects, specify true.

Action (RubberStamp)

If = RubberStamp, you can click on the board multiple copies of the same object.

Example

Process: PCB:Paste

Parameters : OnCurrentLayer = True

PasteComponent process

Description

Puts a selected component form a schematic into a library.

Parameters

N/A

Example

Process: PCB:PasteComponent

PinSwap process

Description

Invokes the Setup Pin Swapping dialog which attempts to minimise net crossovers and total routing length for FPGA based projects..

Parameters

N/A

Example

Process: PCB:PinSwap

PlaceArc process

Description

The PlaceArc process is used to place arc objects onto PCB and library editor documents, using the arc center or arc edge as the starting point. Arcs can be used to define component shapes on the overlay layers or on the mechanical and keepout layers to indicate the board outline, mounting holes or general documentation. Arcs can also be placed on signal layers as tracks to create curved corners.

Parameters

Method (Circle, Edge,EdgeAnyAngle) Defaults to Center if no parameter supplied.

Location.X (Real) X-location of the arc center point.

Location.Y (Real) Y-location of the arc center point.

Width (Real)

StartAngle (Real: 0-360)

Radius (Real)

EndAngle (Real: 0-360)

Keepout (True, False) - True, False. Defaults to False if no parameters supplied.

Selected (True, False, Toggle)

DRCError (True, False, Toggle

Locked (True, False, Toggle)

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

PlaceBoardOutline process

Description

Create and place a board outline on the PCB document either by deriving from the selected primitives on the board or by defining the vertices of the board outline.

Parameters

Mode (BOARDOUTLINE_FROM_SEL_PRIMS, '')

By default, no parameters supplied.

Example

Process: PCB:PlaceBoardOutline

PlaceComponent process

Description

The PlaceComponent process is used to place a library component from any open footprint library in the current PCB document window.

Parameters

NameOn (True, False) Sets the designator visibility on or off.

CommentOn (True, False) Sets the comment visibility on or off.

NameAutoPosition (0...10) Manual,TopLeft,CenterLeft, BottomLeft,TopCenter, CenterCenter, BottomCenter,TopRight, CenterRight, BottomRight

CommentAutoPosition (0...10) Manual,TopLeft,CenterLeft, BottomLeft,TopCenter, CenterCenter, BottomCenter,TopRight, CenterRight, BottomRight

UnionIndex (Integer) Unions are sets of components that will be manipulated as a block for the PCB placement. Components in a union maintain their relative positions within the union as they are moved.

GroupNum (Integer) Not used internally. Can use for specific purposes such as a tag.

Height (Real). Sets the height of the component.

Pattern (String) See the footprint parameter.

FileName (String) The filename of the component.

Footprint (String) Name of the component to be place from a library in the current library list.

Location.X (Real) Location of the component on the x axis.

Location.Y (Real) Location of the component on the y axis.

Rotation (Real: 0-360) Defaults to 0

Layer (Top, Bottom) Defaults to Top layer.

Designator.Text (String)

Designator.Visible (True, False)

Designator.Location.X (Real)

Designator.Location.Y (Real)

Designator.Height (Real)

Designator.Font (Default, SansSerif, Serif)

Designator.Rotation (Real)

Designator.Mirror (Real)

Designator.Width (Real)

Comment.Text (String)

Comment.Visible (True, False)

Comment.Location.X (Real)

Comment.Location.Y (Real)

Comment.Height (Real)

Comment.Font (Default, SansSerif, Serif)

Comment.Rotation (Real)

Comment.Mirror (Real)

Comment.Width (Real)

Example

Process: PCB:PlaceComponent

Parameters : Footprint = AXIAL0.3 | CommentAutoPosition = 6 | NameOn = False | Designator.Text = DesignatorText | Comment.Text = Commentary

PlaceComponentFromLibraryEditor process

Description

Places a currently selected component from a current library onto a PCB document.

Parameters

N/A

Example

Process: PCB : PlaceComponentFromLibraryEditor

PlaceComponentsFromFile process

Description

Position components based on the PIK (Pick and Place) file.

Parameters

N/A

Example

Process: PCB:PlaceComponentsFromFile

PlaceCoordinate process

Description

The PlaceCoordinate process is used to place coordinate markers onto the current PCB document.

Parameters

Location.X (Real)

Location.Y (Real)

Size (Real)

LineWidth (Real)

TextHeight (Real)

TextWidth (Real)

Font (Serif, SansSerif, Default)

Style (None, Normal, Brackets)

Rotation (Real)

Selected (True, False, Toggle)

DRCError (True, False, Toggle

Locked (True, False, Toggle

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

Example

Process: PCB:PlaceCoordinate

Parameters :

PlaceDimension process

Description

The PlaceDimension process is used to place dimension objects onto the current PCB and library editor document. Dimensions are used for documentation and mechanical purposes to describe the physical dimensions of the PCB design. The dimension consists of arrows and lines made up of tracks and a string describing the actual distance measured between any two user-specified points. There are different types of dimension objects.

Parameters

DimensionKind (Original, Linear, Angular, Radial, Leader, Datum, Baseline, Center, LinearDiameter, RadialDiameter).

Location1.X (Real)

Location1.Y (Real)

Location2.X (Real)

Location2.Y (Real)

Height (Real)

LineWidth (Real)

TextHeight (Real)

TextWidth (Real)

Font (Serif, SansSerif, Default)

Style (None, Normal, Brackets)

Selected (True, False, Toggle

DRCError (True, False,Toggle)

Locked (True, False,Toggle)

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

Example

Process: PCB:PlaceDimension

Parameters : DimensionKind = Radial

PlaceFill process

Description

The PlaceFill process is used to place a rectangular solid fill area onto PCB or library editor documents.

Parameters

Location1.X (Real)

Location1.Y (Real)

Location2.X (Real)

Location2.Y (Real)

Rotation (Real)

Selected (True, False,Toggle)

Keepout (True, False)

DRCError (True, False, Toggle)

Locked (True, False,Toggle)

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

Example

Process:

Parameters :

PlacePolygonPlane process

Description

he PlacePolygonPlane process is used to create polygon objects on the current document window. Polygon planes (or copper pours) are similar to area fills, except that they can fill irregularly shaped areas of a board and can connect to a specified net as they are poured.

Parameters

PourOver (True, False,Toggle)

RemoveDead (True, False,Toggle)

GridSize (Real) Specifies grid size used when pouring ploygon

TrackWidth (Real) Specifies track width used when pouring polygon

MinPrimLength (Real)

HatchStyle (90Degree, 45Degree, Vertical, Horizontal, None)

Netname (String)

UseOctagons (True, False,Toggle)

PolygonType (Polygon, Split Plane)

Kind(n) (0, 1) segment kind, 0 specifies track segment, 1 specifies arc segment

Vx(n) (Real) Starting point of vertex (n)

Vy(n) (Real) End point of vertex (n)

Cx(n) (Real) X center point of arc segment (n)

Cy(n) (Real) Y center point of arc segment (n)

SA(n) (Real) Starting Angle of arc segment (n)

EA(n) (Real) End Angle of arc segment (n)

R(n) (Real) Radius of arc segment (n)

Selected (True, False,Toggle)

DRCError (True, False,Toggle)

Locked (True, False,Toggle)

PrimitiveLock (True, False,Toggle)

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

Example

Process: PCB:PlacePolygonPlane

Parameters :

See also

PlaceSplitPlane process

PlaceRoom process

Description

Places a room object on the PCB document where specified objects are grouped together inside this room. This room often represents a channel from a schematic project.

Parameters

ModeFit (Polygonal_room, Create_Centers, Create_NonOrtho, Create_Ortho, Create_Rectangle, Fit_Centers, Fit_NonOrtho, Fit_Ortho, Fit_Rectangle)

ContextObject (Room)

Notes

Create_Centers: Creates a Room from Component Centers

Create_NonOrtho: Create Non-Orthogonal Room from Components

Create_Ortho: Create Orthogonal Room from Components

Create_Rectangle: Create Rectangular Room from Components

Fit_Centers: Wrap Room Around Member Component Centers

FIt_NonOrtho: Wrap Non-Orthogonal Room Around Member Components

Fit_Ortho: Wrap Orthogonal Room Around Member Components

Fit_Rectangle Wrap Rectangular Room Around Member Components

Example

Process: PCB:PlaceRoom

Parameters :ModeFit = Fit_Rectangle

PlaceSplitPlane process

Description

Place a split power/ground plane on the current PCB document. This process is used to "split" internal power planes so that they can be shared between multiple power rails.

Parameters

PourOver (True, False,Toggle)

RemoveDead (True, False,Toggle)

GridSize (Real) Specifies grid size used when pouring ploygon

TrackWidth (Real) Specifies track width used when pouring polygon

MinPrimLength (Real)

HatchStyle (90Degree, 45Degree, Vertical, Horizontal, None)

Netname (String)

UseOctagons (True, False,Toggle)

PolygonType (Polygon, Split Plane)

Kind(n) (0, 1) segment kind, 0 specifies track segment, 1 specifies arc segment

Vx(n) (Real) Starting point of vertex (n)

Vy(n) (Real) End point of vertex (n)

Cx(n) (Real) X center point of arc segment (n)

Cy(n) (Real) Y center point of arc segment (n)

SA(n) (Real) Starting Angle of arc segment (n)

EA(n) (Real) End Angle of arc segment (n)

R(n) (Real) Radius of arc segment (n)

Selected (True, False,Toggle)

DRCError (True, False,Toggle)

Locked (True, False,Toggle)

PrimitiveLock (True, False,Toggle)

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

Example

Process: PCB:PlaceSplitPlane

Parameters :

PlaceString process

Description

The PlaceString process is used to place a line of text onto PCB or library editor documents. Special strings allow the designer to place generic, non specific text which is interpreted when printing. The available special strings are;

.LAYER_NAME,.PCB_FILE_NAME,
.PCB_FILE_NAME_NO_PATH,.PLOT_FILE_NAME,.PRINT_DATE,.PRINT_TIME,.PRINT_SCALE,.LEGEND,.NET_NAMES_ON_LAYER,.ARC_COUNT

.COMPONENT_COUNT,.FILL_COUNT,.HOLE_COUNT, .NET_COUNT, .PAD_COUNT,.STRING_COUNT,.TRACK_COUNT, .VIA_COUNT, .DESIGNATOR, .COMMENT,

The .DESIGNATOR and .COMMENT special strings are added to the component in the library. Use these if you need to control the location of these attributes on a component. They can be placed on any layer. The standard designator and comment can be hidden if desired.

Parameters

Height (Real)

Width (Real)

Font (Default, SansSerif, Serif)

Rotation (Real: 0-360)

Mirror (True, False)

Text (String) Upto 255 characters.

Location.X (Real)

Location.Y (Real)

Selected (True, False,Toggle)

DRCError (True, False,Toggle)

Locked (True, False,Toggle)

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

Example

Process:

Parameters :

PlaceTrack process

Description

The PlaceTrack process places a free track on a current PCB document.

Parameters

Width (Real)

Location1.X (Real)

Location1.Y (Real)

Location2.X (Real)

Location2.Y (Real)

UserRouted (True, False,Toggle)

TearDrop (True, False,Toggle)

Selected (True, False.Toggle)

DRCError (True, False,Toggle)

Locked (True, False,Toggle)

Layer (Current, Top, Bottom, Topoverlay, Multilayer, Bottomoverlay, Connect, Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Keepout,Mechanical1..16,Mid1..30,Bottompaste,Bottomsolder,Drilldrawing,Drillguide,Plane1..16,,Toppaste,Topsolder)

Example

Process:

Parameters :

PlaceVia process

Description

The PlaceVia process is used to place a free via onto the current PCB or library editor document.

Parameters

Diameter (Real)

HoleSize (Real)

Location.X (Real)

Location.Y (Real)

UserRouted (True, False,Toggle)

StartLayer (Top, Mid1..Mid30, Bottom)

EndLayer (Top, Mid1..Mid30,Bottom)

Example

Process: PCB:PlaceVia

Parameters : Diameter = 40 | HoleSize = 28 | Location.X = 1000 | Location.Y = 1000 | StartLayer = Top | EndLayer = Bottom

PreviousComponent process

Description

Go to the previous component within the currently open PCB library.

Parameters

N/A

Example

Process: PCB:PreviousComponent

ReAnnotate process

Description

Reannotate components to update the designators on the PCB document. You can also reverse the component designators.

Parameters

Action (ReverseDesignators, '')

Example

Process: PCB:ReAnnotate

Parameters : Action = ReverseDesignators

Redo process

Description

Redoes the previous operation.

Parameters

N/A

Example

Process: PCB:Redo

ReportBoardSpecs process

Description

The ReportBoardSpecs process is used to generate an ASCII report file of a library or a component.

Parameters

ReportKind (Component, Library)

Example

Process: PCB : ReportBoardSpecs

Parameters : ReportKind = Component

ReportNetlistStatus process

Description

Generates a report outlining the status of the netlist for a PCB document.

Parameters

N/A

Example

Process: PCB:ReportNetlistStatus

ResetAllErrorMarkers process

Description

Reset all error markers on the PCB document.

Parameters

N/A

Example

Process: PCB:ResetAllErrorMarkers

ResetOrigin process

Description

Resets the origin of the PCB board.

Parameters

N/A

RotateSelectedObjects process

Description

Rotate selected objects by 90 degree increments.

Parameters

N/A

Example

Process: PCB : RotateSelectedObjects process.

RunQuery process

Description

Execute a query statement to affect a group of objects on a PCB document.

Parameters

Expr (string)

The Expr refers to the valid expression statement or statements (with OR and AND keywords in the expression) that the Query engine parses first before taking action. Refer to the Query documentation for more details on numerous parameters for this RunQuery process.

Zoom (True,False)

If true, and the query is valid, the objects affected by the query are zoomed into.

Mask (True, False)

If true, and the query is valid, the objects affected by the query are masked.

Select (True,False)

If true, and the query is valid, the objects affected by the query are selected.

Action (FindSimilar, FindSimilarUnderCursor).

Clear (True,False)

If true, the current query is cleared.

Example

Process: PCB:RunQuery

Parameters :Expr=IsDesignator And (Rotation <> 0) And (Rotation <> 360)|Select=True|Mask=True

An example of the PCB query can be found in the **Examples\Scripts\Delphi Scripts\PCB** examples folder of your installation.

RunQueryBuilder process

Description

Invokes a Query Builder dialog that simplify the process of building a query.

Parameters

LaunchMode (UnderCursor)

Defaults to blank. If UnderCursor, the QueryBuilder dialog appears with a query for the current state of selection of objects on a PCB document.

RunRuleWizard (True, False)

If True, the Query Builder wizard appears and assist you with building a query.

Example

Process: PCB : RunQueryBuilder

RunScissors process

Description

Slice a polygon plane or a room on a PCB document.

Parameters

Mode (Cut_Polygons, Cut_Rooms, SmartCut_Rooms)

Cut_Polygons = slice polygons

Cut_Rooms =Slice a room object

SmartCut_Rooms = Slice a room object including those created by the Component Class Creation.

ContextObject (Room, Polygon)

Example

Process: PCB : RunScissors

Parameters : Mode = Cut_Rooms

Select process

Description

Perform a selection on a specified group of objects within a specified boundary on a PCB document.

Parameters

Scope (InsideArea, OutsideArea, All, Board, Net, ConnectedCopper, PhysicalConnection, Layer, Free,Locked, OffGridPads, RoomConnections, ComponentConnections, ComponentNets)

If RoomConnections, ComponentConnections or ComponentNets then you might need to specify the ContextObject parameter where possible values are Room or Component.

Example

Process: PCB:Select

Parameters :Scope = All

SelectionMemory process

Description

Perform one of the many selection memory processes including displaying the Selection Memory dialog.

Parameters

Action (ShowDialog, Store, Recall, StorePlus, RecallPlus, Clear, Apply)

Index (1..n)

Notes

There are up to 9 Store and Recall memory states for the Selection Memory diailog.

Example

Process: PCB : SelectionMemory

Parameters : Action = ShowDialog | Index = 1

SetComponentReference process

Description

Sets the reference point of a component object, whether by the pin 1, center or the location. When a component is dragged or rotated, it is done by the reference point of this object.

Parameters

Location ('', Pin, Center);

Example

Process: PCB:SetComponentReference

Parameters: Location = Pin.

SetCurrentLayer process

Description

Display next enabled signal layer, or an enabled layer from the current PCB document.

Parameters

LayerName (NextSignal, Next, Previous)

Example

Process: PCB:SetCurrentLayer

Parameters :LayerName =NextSignal

SetOrigin process

Description

Set the origin of the PCB board at where the cursor is.

Parameters

Location.X (Real)

Location.Y (Real)

Example

Process: PCB:SetOrigin

Parameters : Location.X = 1000 | Location.Y = 1000

SetupPreferences process

Description

Configure system settings, display settings, single layer mode and routing mode etc.

Parameters

Tab (Options, Display, Colors, Show/Hide, Defaults, Signal Integrity).

Defaults to running Preferences dialog with the Options page active if no parameters supplied. Otherwise the tab parameter sets the page of the preferences dialog active.

Options Tab

SnapToCenter (True, False, Toggle) Sets Snap To Center option.

SmartComponentSnap (True, False, Toggle). Sets Snap to the nearest primitive of the component if True.

ExtendSelection (True, False, Toggle) Sets Extend Selection option.

RemoveDuplicates (True, False, Toggle) Sets Remove Duplicates option.

RotationStep (Real: 0-360) Sets the Rotation Step value.

CursorType (0,1,2) Large90, Small90, Small45

OnlineDRC (True, False, Toggle) Sets Online DRC option.

LoopRemoval (True, False, Toggle) Sets Loop Removal option.

ComponentDrag (0,1,2) None, EnclosedTracks ConnectedTracks

ConfirmGlobalEdit (True, False, Toggle) Sets Confirm Global Edit option.

ToggleMustHoldShiftToSelect (True,False, Toggle)

RestrictRoutingTo9045 (True, False, Toggle)

Display Tab

ConvertSpecialStrings (True, False, Toggle)

HighlightInFull (True, False, Toggle)

UseNetColorForHighlight (True, False, Toggle)

RedrawLayers (True, False, Toggle)

SingleLayerMode (True, False, Toggle)

TransparentLayers (True, False, Toggle)

ShowPadNets (True, False, Toggle) Sets Show Pad Nets option.

ShowPadNumbers (True, False, Toggle) Sets Show Pad Numbers option.

DraftTrackThreshold (Real) Sets Track Draft Threshold value.

DraftStringThreshold (Integer) Sets String Draft Threshold value, specified in screen pixels.

Colors Tab

The following parameters are (Long Integer) Each parameter sets the color of a layer, the color value is specified by a RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256(G+(256*B)).*

TopSignalColor, Mid1Color..Mid30Color, BottomSignalColor, TopOverlayColor, BottomOverlayColor TopPasteColor, BottomPasteColor, TopSolderColor, BottomSolderColor, Plane1Color..Plane16Color DrillGuideColor, KeepOutColor, Mechanical1Color..Mechanical16Color, DrillDrawingColor, MultiLayerColor, BackgroundColor, SelectionColor, PadHoleColor, ViaHoleColor, VisibleGrid1Color, VisibleGrid2Color, DRCErrorColor, ConnectLayerColor

Show/Hide Tab

FillQuality (Full, Draft, Hidden) Sets the display mode for Fills.

TrackQuality (Full, Draft, Hidden) Sets the display mode for Tracks.

ArcQuality (Full, Draft, Hidden) Sets the display mode for Arcs.

ViaQuality (Full, Draft, Hidden) Sets the display mode for Vias.

PadQuality (Full, Draft, Hidden) Sets the display mode for Pads.

PolygonQuality (Full, Draft, Hidden) Sets the display mode for Polygons.

StringQuality (Full, Draft, Hidden) Sets the display mode for Strings.

ComponentQuality (Full, Draft, Hidden) Sets the display mode for Components.

DimensionQuality (Full, Draft, Hidden) Sets the display mode for Dimensions.

CoordinateQuality (Full, Draft, Hidden) Sets the display mode for Coordinates.

AllQuality (Full, Draft, Hidden) Sets the display mode for All primitives.

DefaultPrimitives (Load, Save) Loads or saves default values for primitives.

Example

Process: PCB:SetupPreferences

Parameters : Tab = Options

ShowApplicableRules process

Description

The ShowApplicableRules process is used to show which rules are applicable to this object if no parameter specified. If Binary = True, you are prompted to select two objects that the binary rules are applicable to. A report dialog is displayed showing which rules are applied to one object (or two objects).

Parameters

Binary (True, False)

Defaults to unary rule if no parameter is specified. If True, you are prompted to select two objects.

Example

Process: PCB : ShowApplicableRules

Parameters : Binary = True

ShoveComponents process

Description

Shove components and move the surrounding objects on the current PCB.

Parameters

Method (SetShoveDepth, '')

If Method = SetShoveDepth, you will be prompted with a Shove Depth dialog.

Example

Process: PCB:ShoveComponents

Parameters : Method = SetShoveDepth

ShowConnections process

Description

Make connections visible.

Parameters

Show (Net, ComponentNets, All)

Notes

If Net, then the specified net is shown only and you will be prompted to choose which net. If All, all connections are shown. If ComponentNets, only nets to components will be shown.

Example

Process: PCB:ShowConnections

Parameters: Show=Net

See also

HideConnections process

SnapGrid process

Description

Define the snap grid x and y simultaneously for the PCB document.

Parameters

Size (1Mil, 5Mil, 10Mil, 20MII, 25Mil, 50MII, 100Mil, 0.025MM, 0.100MM, 0.250MM, 0.500MM, 1.000MM, 2.500MM)

If Size not specified, you are prompted to define a snap grid.

Example

Process: PCB:SnapGrid

Parameters : Size = 5Mil

SnapGridXY

Description

Define the snap grid x and y simultaneously for the PCB document.

Parameters

Axis (X,Y)

Value (1Mil, 5Mil, 10Mil, 20MII, 25Mil, 50MII, 100Mil, 0.025MM, 0.100MM, 0.250MM, 0.500MM, 1.000MM, 2.500MM)

If Value not specified, you are prompted to define a snap grid.

Example

Process: PCB:SnapGrid

Parameters : Size = 5Mil

TearDropSelectedPads process

Description

Add tear drops to selected pads on the PCB board for better electrical properties.

Parameters

N/A

Example

Process: PCB:TearDropSelectedPads

ToggleSelection process

Description

The ToggleSelection process toggles the selection state of PCB objects.

Parameters

Object (Arc, Component, Fill)

The process prompts for a location even if parameters are supplied. Also if you have that option in the Preferences enabled it clears everything first.

Undo process

Description

Undoes the current operation.

Parameters

N/A

Example

Process: PCB:Undo

Unroute process

Description

Unroutes all nets, a specific net, room or a component on a current PCB document.

Parameters

Object (All, Net, Room, SingleRoom, Connection, Component, SingleComponent)

When Object = SingleRoom or SingleComponent, you need to specify the value for the ContextObject (Room or Component respectively).

Example

Process: PCB:Unroute

Parameters : Object=All

UpdateFootprints process

Description

Updates footprints from a library based on the PCB components in a current PCB document.

Parameters

Mode (All, '')

Example

Process: PCB : UpdateFootprints

Parameters : Mode = All

UpdateRotationOnSelectedComponents process

Description

Used to update selected components rotation field values, based upon the orientation of the component in the library and the pad positions in the placed component. Otherwise, components are assumed to have a 0 rotation value, whatever their placed orientation.

Zoom process

Description

The Zoom process is used to set the zoom level of the current PCB document. Depending upon the parameters, a number of zoom actions can be performed from refreshing the screen to displaying a specified region of the PCB document.

Parameters

ZoomLevel (Real)

Prompts for a zoom value if not specified.

Action (In, Out, All, Filtered, Board, Last, MicroIn, MicroOut, Pan, Point, Redraw, RedrawCurrent,Selected, Sheet, Window)

If Action is set to area, then the four following parameters will be used (Location1.x, Location1.Y, Location2.X and Location2.Y)

Example

Process: PCB:Zoom

Parameters : ZoomLevel = 4.0

Schematic Processes

This section covers the Schematic processes and their parameters (if any).

Table of Schematic processes

AlignObjects process	LibraryDocumentDescription process	PlaceSheetEntry process
AskForXYLocation process	ListAllSelectedPins process	PlaceSheetSymbol process
BringObjectToFront process	MoveComponentToLibrary process	PlaceStimulus process
BringObjectToFrontOf process	MoveCursor process	PlaceTestVectorIndex process
ChangeComponentName process	MoveObject process	PlaceTextFrame process
ChangeCurrentTemplate process	MoveObjectToFront process	PlaceWire process
ChangeObject process	MoveSelectedObjects process	PreviousComponentLibraryEditor process
ChangeObjectGraphically process	MoveSingleObject process	PreviousComponentPart process
ChangeObjectGraphicallyOrSetFocus process	NextComponentLibraryEditor process	PrintDocument process
ChangeSingleObject process	NextComponentPart process	Redo process
Clear process	Paste process	RemoveComponentPart process
ClearLocationMark process	PlaceAnnotation process	RemoveDuplicateComponentNames process
ComponentRuleCheck process	PlaceArc process	RemoveTemplate process
Copy process	PlaceArray process	RenameObjectText process
CopyComponentToLibrary process	PlaceBezier process	ReportComponent process
CreateComponent process	PlaceBus process	ReportComponentLibrary process
CreateLibraryFromProject process	PlaceBusEntry process	ResetUniqueIds process
CreateSheetFromFGPAPart process	PlaceComponentFromLibraryEditor process	Select process
CreateSheetFromSheetSymbol process	PlaceEllipse process	SelectionMemory process
CreatSheetSymbolFromSheet process	PlaceEllipticalArc process	SendObjectToBack process
CrossProbeChoose process	PlaceGraphicImage process	SendObjectToBackOf process
CrossProbeNetOnSch process	PlaceIEEESymbol process	SetLocationMark process
CrossProbeNotify process	PlaceIntegratedComponent process	SetupArrayPlacement process
CrossReference process	PlaceJunction process	SetupPreferences process
Cut process	PlaceLine process	SetupPrinter process
DeleteComponentFromLibrary process	PlaceNetLabel process	SynchronizeHierarchy process
DeleteObjects process	PlaceNoErc process	ToggleComponentModeDisplay process
Deselect process	PlaceNote process	ToggleElectricalGrid process
DocumentPreferences process	PlaceOffSheetConnector process	ToggleHiddenPins process
DownHierarchy process	PlaceParameterSet process	ToggleSelection process
Drag process	PlacePart process	ToggleSingleObjectSelection process
ExportLibraryToDatabase process	PlacePartFromLibraryEditor process	ToggleSnapGrid process
ExportSchematicToDatabase process	PlacePartFromSchEditor process	ToggleVisibleGrid process
FilterSelect process	PlacePCBLayoutDirective process	Undo process
FindAndReplaceText process	PlacePieChart process	UpdateComponentsFromLibraryEditor process
FindNextText process	PlacePin process	UpdateCurrentTemplate process
FindText process	PlacePolygon process	UpdateLibraryMask process
FirstComponentLibraryEditor process	PlacePort process	UpdatePartDatabaseLinks process

IncrementComponentPartNumber process Jump process LastComponentLibraryEditor process	PlacePowerPort process PlaceProbe process PlaceRectangle process PlaceRoundedRectangle process	UpdatePartFromLibraryEditor process UpdatePartsFromLibraryList process Zoom process

AddComponentPart process

Description

Adds a new component part to a component in the library.

Parameters

N/A

Example

Process: PCB:AddComponentPart

AlignObjects process

Description

The AlignComponents process aligns selected objects on a Schematic document using specified parameters. There are different alignment parameters.

Parameters

Action (Dialog,Left, Right, CenterHorizontal, SpaceEquallyHorizontal,Top, Bottom, CenterVertical, SpaceEquallyVertical,Grid)

If no parameters supplied, the Align Components dialog appears.

Example

Process: SCH:AlignComponents

Parameters : Alignment = CenterHorizontal

AskForXYLocation process

Description

Returns X and Y location values from a cursor click on a current schematic document.. This is primarily used for script developing using Delphi Script.

Parameters

Location.X (Integer)

Location.Y (Integer)

Result (Integer)

Example

Process: SCH:AskForXYLocation

Example 2

```
Function GetClickPosition;
Begin
    ResetParameters;
    RunProcess('SCH','AskForXYLocation');
    GetIntegerParameter('Location.X',X)
    GetIntegerParameter('Location.Y',Y)
End;
```

BringObjectToFront process

Description

Bring a selected object graphically to the front of all other objects on a schematic document.

Parameters

N/A

Example

Process: SCH:BringObjectToFront

BringObjectToFrontOf process

Description

Bring an object to the front of another object on a schematic document.

Parameters

N/A

Example

Process: SCH:BringObjectToFrontOf

ChangeComponentName process (SCH)

Description

Change the name of the current component in the current library.

Parameters

N*ame (String)*

Name of the component to change.

Returns (True, False)

Depending on whether the component name has changed or not.

Example

Process: SCH:ChangeComponentName

ChangeCurrentTemplate process

Description

The ChangeCurrentTemplate process is used to change the current template of a sheet to a new template file name. A template is a special graphical entity that holds user-defined sheet size, border and title block descriptions.

Parameters

FileName (String)

Specifies the full path and file name of the template file.

Example

Process: SCH:ChangeCurrentTemplate

ChangeObject process (SCH)

Description

Select and use dialog to change objects on the schematic document if no parameters supplied. Otherwise can change component parts to sheet symbols or to ports or break a polyline into segments if the Action parameter is specified.

Parameters

*Action (*PartToSheetSymbol, PartToPorts, BreakPolyline).

Example

Process: SCH:ChangeObject

Parameters : Alignment = CenterHorizontal

ChangeObjectGraphically process

Description

The ChangeObjectGraphically process is used to graphically change or move an object. If the object already has the focus then this process interactively changes the object by physically moving the position of the objects handles.

Parameters

N/A

ChangeObjectGraphicallyOrSetFocus process

Description

The ChangeObjectGraphicallyOrSetFocus process is used to set the focus on an object. If the object already has the focus then this process interactively changes the object by physically moving the position of the objects handles.

Parameters

ZoomOnFocusedObject (True, False).

If True then the focussed object is zoomed into, resizing the whole object on the screen.

Example

Process: SCH:ChangeObjectGraphicallyOrSetFocus

Parameters : ZoomOnFocusedObject = True

ChangeSingleObject process

Description

The ChangeSingleObject process is used to modify specific attributes of placed objects on the schematic or library document. This process is similar to the Change process, except that when an object has been edited you will not be prompted to select another object.

Parameters

RunComponentDialog (True,False).

Defaults to false. If true, Component Properties dialog appears.

Clear process (SCH)

Description

Delete all selected objects from the current schematic document.

Parameters

N/A

ClearLocationMark process

Description

The ClearLocationMark process is used to clear a specific location marker. To set a new location use one of the SetLocationMark (1-10) processes. To move the cursor to a marked location use a Jump process with a specified LocationMark parameter.

Parameters

*LocationMark (*1..10)

To clear all location marks, leave the LocationMark parameter blank.

Example

Process: SCH:ClearLocationMark

Parameters : LocationMark = 1

ComponentRuleCheck process (SCH)

Description

The ComponentRuleCheck process searches the current active library in the Library Editor for user-specified errors such as duplicate pin numbers or missing footprints.

Parameters

Show (True,False). If True, the report of pin errors are displayed. Defaults to True.

DuplicateComponentNames (True,False).

Checks for duplicate component names. Defaults to previous setting if none specified.

DuplicatePins (True,False).

Checks for duplicate pins. Defaults to previous setting if none specified.

MissingDescription (True,False).

Checks for empty description field. Defaults to previous setting if none specified.

MissingFootPrint (True,False).

Checks for empty foot print field. Defaults to previous setting if none specified.

MissingDefaultDesignator (True,False).

Checks for empty default designator field. Defaults to previous setting if none specified.

MissingPinName (True,False).

Checks for empty pin name field. Defaults to previous setting if none specified.

MissingPinNumber (True,False).

Checks for empty pin number field. Defaults to previous setting if none specified.

Returns (True,False)

'Result=True' or 'Result=False' depending on whether the dialog or the parameters for this process has been processed or not..

Example

Process: SCH:ComponentRuleCheck

Parameters: DuplicateComponentNames=True | MissingPinName=False

Copy process (SCH)

Description

The Copy process is used to copy the objects that are currently selected in the schematic or library document to the clipboard. The Paste process can be used to place a copy of the selection back into any open the Schematic editor document window or into any application which supports the .WMF (Windows MetaFile) clipboard format.

Parameters

ClipboardMode (ClipboardMode,'')

Action (CopyAsText, '')

Example

Process: SCH:Copy

Parameters : ClipBoardMode = ClipboardRing | Action = CopyAsText

CopyComponentToLibrary process

Description

The CopyComponentToLibrary process is used in the Library Editor to copy a component from the current library file to another library file. This process is useful when creating customized libraries.

Parameters

N/A

CreateComponent process (SCH)

Description

The CreateComponent process is used to create a new component within the current library document.

Parameters

Name (String)

Name of the component to create.

Example

Process: SCH:CreateComponent

Parameters : Name = ExprCapacitor

CreateLibraryFromProject process

Description

Creates a library document of symbols from the components on a current schematic document.

Parameters

N/A

CreateSheetFromFPGAPart process

Description

Create a VHDL file from a FPGA component.

Parameters

DocumentKind (VHDL)

CreateSheetFromSheetSymbol process

Description

Creates a new schematic document and adds ports for the sheet entries that are on the sheet symbol. Used in hierarchical design. After creating a sheet symbol (if following a top down design methodology), automatically creates a new sheet with ports for all sheet entries present in the sheet symbol. Ports electrical characteristics and styles complement the sheet entries in the original sheet symbol.

Parameters

DocumentKind (VHDL, Schematic) Specify the type of sheet when creating a new sheet. Defaults to a schematic sheet if no parameter supplied.

Example

Process: SCH:CreateSheetFromSheetSymbol

Parameters : Type = Schematic

See also

CreateSheetSymbolFromSheet process

CreateSheetSymbolFromSheet process

Description

Create a sheet symbol that represents the current schematic document. Used in hierarchical designs, to speed creation of sheet symbols for a "child" sheet. After creating a sheet, this process will automatically generate a sheet symbol, labeled with its file name, including Sheet Entries for each Port in the sheet. Sheet Entry electrical characteristics and styles complement the ports in the original sheet.

Parameters

N/A

See also

CreateSheetFromSheetSymbol process

CrossProbeChoose process (SCH)

Description

The ChooseCrossProbe process is defined to allow a user to cross-probe from the Schematic editor server into the other servers that are currently running within the Altium Designer environment

Parameters

Action (CrossSelect,'')

CrossReference process

Description

The CrossReference process adds port references to a document or a project, or removes port references from a document or a project.

Parameters

Action (AddToDocument, AddToProject, RemoveFromDocument, RemoveFromProject)

Example

Process: SCH:CrossReference

Parameters : Action = AddToDocument

Cut process (SCH)

Description

The Cut process is used to clear the current selected objects from the document and copies it to the clipboard. The Paste process can be used to place the selection back into any open the Schematic document window or to another application that supports the Windows .WMF clipboard format.

Parameters

N/A

Example

Process: SCH:Cut

DeleteComponentFromLibrary process

Description

The DeleteComponentFromLibrary process is used to remove components from the current Library document.

Parameters

Name (String) Name of component to delete from current library.

Example

Process: SCH:DeleteComponentFromLibrary

Parameters : Name = 74LS00

DeleteObjects process (SCH)

Description

The DeleteObjects process is used to delete objects from the schematic and library editor document windows.

Parameters

N/A

DeSelect process (SCH)

Description

DeSelect objects inside/outside an area, all objects on a current schematic document or all open schematic documents

Parameters

Action (InsideArea,OutsideArea,All, AllOpenDocuments).

Example

Process: SCH:DeSelect

Parameters : Action= All

See also

DeSelect process.

DocumentPreferences process (SCH)

Description

The DocumentPreferences process is used to define various document settings for either the schematic editor or library editor, such as sheet styles, size, orientation, background and border colors and other options that apply to the document. If no parameters supplied, The Document Options dialog appears.

Parameters

Tab (Sheet Options, Parameters)

Action (SetSnapGrid, SetVisibleGrid,SetElectricalGrid,EditProperties)

Example

Process: SCH:DocumentPreferences

Parameters : Tab = SheetOptions

DownHierarchy process

Description

Go down the hierarchy of a project.

Parameters

*Action (*OpenAllDocumentsInHierarchy, '')

If no parameter supplied, you are prompted with a cross hair to click on a sheet symbol or port to go up or down from a master sheet to a child sheet and vice versa.

Example

Process: SCH:DownHierarchy

Parameters : Action = OpenAllDocumentsinHierarchy

Drag process

Description

The DragObject process is used to move an object, selected objects or an object using focus rather than selection. If the object or group of objects has electrical characteristics such as a wire or part then connectivity will be maintained with other attached electrical objects.

Parameters

Action (SingleObject, MultipleObjects, SelectedObjects)

Example

Process: SCH:Drag

Parameters : Action = SelectedObjects

ExportLibraryToDatabase process

Description

Not Implemented.

Parameters

N/A

ExportSchematicToDatabase process

Description

Not implemented.

Parameters

N/A

FilterSelect process (SCH)

Description

Perform one of the many filtering processes including displaying the *Find Similar Objects* dialog.

Parameters

Action (FindSimilar,FindSimilarUnderCursor)

Clear (True,False)

ClearUnderlines (True,False)

Expr (valid expression string)

Zoom (True, False)

Mask (True, False)

Select (True,False)

Notes

To invoke the Find Similar Objects dialog, assign this Action=FindSimilar.

To clear current filter, assign Clear=True.

Examples

Process: SCH:FilterSelect

Parameters : Expr=IsPin And (PinElectrical = "Power") | Zoom=True | Select=True

FindAndReplaceText process

Description

Search for and replace text strings on a schematic document. If no parameters supplied, the *Find and Replace Text* dialog appears.

Parameters

SearchText (String)

Specifies the text to search for.

ReplaceText (String)

Specifies the text to replace with.

DocumentScope (0..1)

Specifies the sheet scope to search in. 0 - All Document, 1 - Current Document.

CaseSensitive (True,False).

Depending on whether the search is case sensitive or not.

PromptOnReplace (True,False).

Depending on whether to prompt for confirmation before replacing text.

RestrictToNet (True,False).

Depending on whether to restrict search to net identifiers.

SelectionCriteria (0..2)

Specifies objects to search according to their selection state. 0 - Selected Objects, 1 - Deselected Objects, 2 - All Objects.

Example

Process: SCH:FindAndReplaceText

FindNextText process

Description

Search for and jump to the next matching text string which is the next occurence of the last text find that was specified using the FindText process.

Parameters

N/A

FindText process

Description

Search for and jump to a text string on a schematic document. If no parameters are supplied, the *Find Text* dialog appears prompting you to define the search criteria.

Parameters

SearchText (String)

Specifies the text to search for.

DocumentScope (0..1)

Specifies the sheet scope to search in. 0 - All Document, 1 - Current Document.

CaseSensitive (True,False)

depending on whether the search is case sensitive.

PromptOnReplace (True,False)

depending on whether to prompt for confirmation before replacing text.

RestrictToNet (True,False)

depending on whether to restrict search to net identifiers.

SelectionCriteria (0..2)

Specifies objects to search according to their selection state. 0 - Selected Objects, 1 - Deselected Objects, 2 - All Objects.

Example

Process: SCH:FindText

FirstComponentLibraryEditor process

Description

The FirstComponentLibraryEditor process is used to go to the first component in a current library document in the Library Editor.

Parameters

N/A

Example

Process: SCH:FirstComponentLibraryEditor

IncrementComponentPartNumber process

Description

Increments the component part number for a multi part component.

Parameters

N/A

Jump process (SCH)

Description

This parameter can be used to do a variety of jump actions such as jumping to the next error marker, origin, or a new location etc.

Parameters

NextErrorMarker (True,False)

Origin (True,False)

NewLocation (True,False)

LocationMark (1..10)

Example

Process: SCH:Jump

Parameters : NewLocation = True

LastComponentLibraryEditor process

Description

The LastComponentLibraryEditor process is used to go to the last component in a current library document.

Parameters

N/A

LibraryDocumentDescription process

Description

The AlignComponents process aligns selected objects on a PCB document using specified parameters. There are different alignment parameters.

Parameters

*Alignment (*MoveComponentsToGrid, MoveRoomsToGrid, Bottom, Left, Right, Top, CenterHorizontal, CenterVertical, ExpandHorizontal, ExpandVertical, ContractHorizontal, ContractVertical, SpreadHorizontal, SpreadVertical).

If no parameters supplied, the Align Components dialog appears.

Example

Process: PCB:AlignComponents

Parameters : Alignment = CenterHorizontal

ListAllSelectedPins process (SCH)

Description

The ListAllSelectedPins process is used to display a list of the part and pin designators currently selected on the worksheet. This process is useful to identify that your nets contain all the necessary pin information.

Parameters

N/A

MoveComponentToLibrary process

Description

The MoveComponentToLibrary process is used in the Library Editor to move a component from the current library file to another library file. This is similar to the CopyComponentToLibrary process, except that the component is physically removed from the current library and placed in the destination library. This process is useful when creating customized libraries.

Parameters

N/A

MoveCursor process (SCH)

Description

Move the cursor across the screen by a specified unit.

Parameters

Direction (Right, Left, Up, Down)

BigSteps (True, False)

Example

Process: SCH:MoveCursor

Parameters : Direction = Up | BigSteps = True

MoveObject process (SCH)

Description

The MoveObject process is used to interactively change the location of placed objects on the schematic and library editor documents.

Parameters

N/A

See also

MoveSelectedObjects process

MoveObjectToFront process

MoveObjectToFront processs

Description

The MoveObjectToFront process is used to interactively change the location of placed objects on the schematic and library documents. This process is similar to the MoveObject process, except that when an object has been moved and placed on the document it will be positioned in front of all the other stacked objects..

Parameters

N/A

MoveSelectedObjects process

Description

The MoveSelectedObjects process is used to reposition an individual selected object or a complex selection containing many objects as a single entity on a current schematic library/document.

Parameters

N/A

MoveSingleObject process

Description

The MoveSingleObject process is used to interactively change the location of placed objects on the schematic and library editor document windows. This process is similar to the MoveObject process, except that when an object has been moved you will not be prompted to select another object.

Parameters

N/A

NextComponentLibraryEditor process

Description

The NextComponentLibraryEditor process is used to go to the next component in a current library document in the Library Editor.

Parameters

N/A

Example

Process: SCH:NextComponentLibraryEditor

NextComponentPart process

Description

The NextComponentPart process is used to show the next part of a multiple part component in the current library document.

Parameters

N/A

Paste process (SCH)

Description

The Paste process is used to place the current clipboard contents into an open Schematic / Library document. However it can be configured as a rubber stamp, placing multiple copies of the same obejct on the schematic document.

Parameters

Action (RubberStamp).

Example

Process: SCH:Paste

Parameters: Action=RubberStamp

PlaceAnnotation process

Description

Place a single line text on the current document.

Parameters

S (String) Text string up to 255 characters in length. Example: S=.date specifies the special string for displaying the current date.

Location.X (Integer) Specified in coordinate units of .01 inch. Range is 0-6500.

Location.Y (Integer) Specified in coordinate units of .01 inch. Range is 0-6500.

Orientation (0..3) Four orientation settings, 0=0 degrees, 1=90 degrees, 2=180 degrees 3=270 degrees. Example: Orientation=1 rotates netlabel vertically 90 degrees.

Color (Long Integer) Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

FontID (String) The font is specified by a description string. The string contains seven fields each separated by a space. "<Size> <Rotation> <Underline> <Italic> <Bold> <StrikeOut> <FontName>". Size is an integer; Rotation cannot be set, always 0; Underline, Italic, Bold and Strikeout are boolean flags 0=False, 1=True; FontName is the actual font name. Examples: FontID=8 0 0 0 1 0 Helv - produces a Helvetica b*old font with 8pt size. FontID=12 0 0 1 0 0 Times New Roman - produces a Times New Roman bold, italic font with 12pt size.*

Selection (True,False, Toggle) This parameter has three possible states, True=on, False=off and Toggle=switch state based on previous setting.

Example

Process: SCH:PlaceAnnotation

PlaceArc process (SCH)

Description

Place graphical arcs on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Radius (Integer)

Specified in units of .01 inch. Example: Radius=30

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

StartAngle (Real)

Start angle can be any degree from 0 to 360. Example: StartAngle=33.333

EndAngle (Real)

End angle can be any degree from 0 to 360. Example: EndAngle=100

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle).

Example

Process: SCH:PlaceArc

PlaceArray process

Description

Place an array with the last set array placement options.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=100

Example

Process: SCH:PlaceArray

Parameters : Location.X = 5000 | Location.Y = 5000

PlaceBezier process

Description

Place a bezier curve on the current document.

Parameters

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

*Color (*Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Ex*amples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.*

Selection (True,False,Toggle)

Example

Process: SCH:PlaceBezier

PlaceBus process

Description

Place a bus on the current schematic document.

Parameters

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle).

Example

Process: SCH:PlaceBus

PlaceBusEntry process

Description

Place a bus entry on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Corner.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

Corner.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle).

Example

Process: SCH:PlaceBusEntry

PlaceComponentFromLibraryEditor process (SCH)

Description

Places a component part from library editor into the current schematic document.

Parameters

LibraryName (String)

Text string up to 255 characters in length. Specifies the full path and file name of the schematic library document.

PartType (String)

Text string up to 255 characters in length. Specifies the component part name.

Example

Process: SCH:PlaceComponentFromLibraryEditor

PlaceEllipse process

Description

Place an elliptical shape on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Radius (Integer)

Specified in units of .01 inch. Example: Radius=30

SecondaryRadius (Integer)

Specified in units of .01 inch. Example: Radius=30

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor (Integer)

Specifies RGB value converted from 6 digit hexidecimal number. See Color parameter. Example: AreaColor=8224125

IsSolid (True,False,Toggle)

Selection (True,False,Toggle)

Transparent (True,False)

Example

Process: SCH:PlaceEllipse

PlaceEllipticalArc process

Description

Place an elliptical arc on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Radius (Integer)

Specified in units of .01 inch. Example: Radius=30

SecondaryRadius (Integer)

Specified in units of .01 inch.

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

StartAngle (Real)

Start angle can be any degree from 0 to 360. Example: StartAngle=33.333

EndAngle (Real)

End angle can be any degree from 0 to 360. Example: EndAngle=100

Color (Long Integer)

Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the

required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection(True,False,Toggle).

Example

Process: SCH:PlaceEllipticalArc

PlaceGraphicImage process

Description

Place a graphical image on the current schematic document.

Parameters

FileName (String)

The full path and file name of the image file to be opened. Example: FileName=C:\MyBitmap.bmp.

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Corner.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

Corner.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle).

IsSolid(True,False,Toggle).

KeepAspect (True,False,Toggle).

Example

Process: SCH:PlaceGraphicImage

PlaceIEEESymbol process

Description

Places an IEEE symbol on a library schematic sheet.

Parameters

*Symbol (*Dot, RightLeftSignalFlow, CLock, ActiveLowInput, AnalogSignalIn, NotLogicConnection, PostponedOutput, OpenColelctor, Hiz, HighCurrent, Pulse, Delay, GroupLine, GroupBinary, ActiveLowOutput, PiSymbol, GreaterEqual, OpenCollectorPullup, OpenEmitter, OpenEmitterPullUp, DigitalSignalIn, Invertor, OrGate, InputOutput, AndGate, XorGate, ShiftLeft, LessEqual, Sigma, Schmitt, ShiftRight).

Example

Process: SCH:PlaceIEEESymbol

Parameters : Symbol = Schmitt

PlaceIntegratedComponent process

Description

The PlaceIntegratedComopnent process places a component from the integrated library on a schematic sheet only.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

LibReference (String)

Name of the part to be placed.

Library (String)

Component library filename where the part exists. By default if no library is specified the component cache is used, if the part is still not found then all .lib files are searched in the current working directory.

Designator (String)

SourceLibraryName(String)

PartID

ParameterNameX

ParameterValueX

ModelType (String)

ModelParameterNameX

ModelParameterValueX

Example

Process: SCH:PlaceIntegratedComponent

PlaceJunction process

Description

Place a junction on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Size (0..3) Four sizes, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: Size=2 sets line width to medium.

Color (Long Integer) Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle).

Locked (True,False,Toggle).

Example

Process: SCH:PlaceJunction

PlaceLine process

Description

Place a graphical line on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Corner.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Corner.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

LineStyle (0..2)

Three line styles, 0=Solid, 1=Dashed, 2=Dotted. Example: LineStyle=2 sets line style to dotted.

*Color (*Integer)

Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle).

Example

Process: SCH:PlaceLine

PlaceNetLabel process

Description

Place a net label on the current schematic document.

Parameters

*S (*String)

Text string up to 255 characters in length.

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

Orientation (0..3)

Four orientation settings, 0=0 degrees, 1=90 degrees, 2=180 degrees 3=270 degrees. Example: Orientation=1 rotates netlabel vertically 90 degrees.

Color (Long Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

FontID (String)

The font is specified by a description string. The string contains seven fields each separated by a space. "<Size> <Rotation> <Underline> <Italic> <Bold> <StrikeOut> <FontName>". Size is an integer; Rotation cannot be set, always 0; Underline, Italic, Bold and Strikeout are boolean flags 0=False, 1=True; FontName is the actual font name. Examples: FontID=8 0 0 0 1 0 Helv - produces a Helvetica bold font with 8pt size. FontID=12 0 0 1 0 0 Times New Roman - produces a Times New Roman bold, italic font with 12pt size.

Selection (True,False,Toggle)

Example

Process: SCH:PlaceNetLabel

PlaceNoErc process

Description

Place a NoErc to suppress no-connection error message for a net on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

*Color (*Long Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle)

Example

Process: SCH:PlaceNoErc

PlaceNote process

Description

The PlaceNote process places a memo like text container on the current schematic document. This note can be collapsed or in full view.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Corner.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Corner.X=200

Corner.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Corner.Y=500

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

TextColor (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: TextColor=125

FontID (String) The font is specified by a description string. The string contains seven fields each separated by a space. "<Size> <Rotation> <Underline> <Italic> <Bold> <StrikeOut> <FontName>". Size is an integer; Rotation cannot be set, always 0; Underline, Italic, Bold and Strikeout are boolean flags 0=False, 1=True; FontName is the actual font name. Examples: FontID=8 0 0 0 1 0 Helv - produces a Helvetica bold font with 8pt size. FontID=12 0 0 1 0 0 Times New Roman - produces a Times New Roman bold, italic font with 12pt size.

IsSolid (True,False,Toggle)

ShowBorder (True,False,Toggle)

Alignment (True,False,Toggle)

WordWrap (True,False,Toggle)

ClipToRect (True,False,Toggle)

Selection (True,False,Toggle)

Collapsed (True, False, Toggle)

Author (String)

Contains the text contents of the memo container.

Example

Process: SCH:PlaceNote

PlaceOffSheetConnector process

Description

Place a off sheet connector on a current schematic document.

Parameters

OffSheetConnector (True,False)

Example

Process: SCH:PlaceOffSheetConnector

PlaceParameterSet process

Description

Places a parameter set object on the current schematic document.

Parameters

ParameterSet (TestVectorIndex, Stimulus, PCBLayout)

Example

Process: SCH:PlaceParameterSet

PlacePart process

Description

Place a component part on the current schematic document.

Parameters

Location.X *(Integer)*

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

CompDisplayMode (0..254)

255 possible graphical mode representations of the same part object.

AreaColor (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

Color (Long Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

PinColor (Integer) Specifies RGB value converted from 6 digit hexidecimal number. See Color parameter.

OverideColors (True,False,Toggle)

IsMirrored (True,False,Toggle)

Orientation (0..3) Four orientation settings, 0=0 degrees, 1=90 degrees, 2=180 degrees 3=270 degrees. Example: Orientation=1 rotates part vertically 90 degrees.

Selection (True,False,Toggle)

PartId (String)

Specifies the component part number.

ShowHiddenFields (True,False,Toggle)

ShowHiddenPins (True,False,Toggle)

LibReference (String)

Name of the part to be placed.

Library (String)

Component library filename where the part exists. By default if no library is specified the component cache is used, if the part is still not found then all .lib files are searched in the current working directory.

FootPrint (String)

Designator (String)

PartType (String)

Description1 Description16 (String)

SheetPartFileName (String) Specifies the full path and file name of the schematic document. Example: SheetPartFileName=C:ChildSheet.SCH

DisplayFieldNames (True,False, Toggle)

UseBrowser (True or False)

By default this parameter is set to false if no value supplied. If UseBrowser = True, then a browse library dialog pops up allowing you to select a part to place on the schematic document. Otherwise a place part dialog appears instead with attributes fields to fill in.

By default, a place part dialog appears with the previous component attributes automatically assigned.

Example

Process: SCH:PlacePart

PlacePartFromLibrayEditor process

Description

Place a part from the library editor onto the schematic document.

Parameters

N/A

PlacePartFromSchEditor process

Description

Place a part from the schematic editor panel onto the schematic document.

Parameters

N/A

PlacePCBLayoutDirective process

Description

Add a directive to schematic nets for the routing of the associated PCB document.

Parameters

RoutingTrackWidth (Integer)

Specifies routing track width passed to PCB layout. Example: RoutingTrackWidth=8

RoutingViaWidth (Integer)

Specifies routing via width passed to PCB layout. Example: RoutingViaWidth=40

NetTopology (0..6)

Seven topology settings, 0=X-bias .. 6=Star Point. Example: NetTopology=3 sets net topology to Daisy *Chain.*

RoutingPriority (0..4)

Five routing priorities, 0=Highest .. 4=Lowest. Example: RoutingPriority=2 sets priority to Medium.

Layer (0..21)

Twenty two layer settings, 0=Undefined .. 21=Power Plane 4. Example: Layer=2 sets layer to Top, Layer=16 sets layer to Bottom.

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Color (Long Integer)

Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle)

Example

Process: SCH:PlacePCBLayoutDirective

PlacePieChart process

Description

Place a pie shape on the current document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Radius (Integer)

Specified in units of .01 inch. Example: Radius=30

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

StartAngle (Real)

Start angle can be any degree from 0 to 360. Example: StartAngle=33.333

EndAngle (Real)

End angle can be any degree from 0 to 360. Example: EndAngle=100

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

*AreaColor (*Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

IsSolid (True,False,Toggle)

Selection (True,False,Toggle)

Example

Process: SCH:PlacePieChart

PlacePin process

Description

Place an electrical pin on a current schematic or library document.

Parameters

Name (String)

Text string up to 255 characters in length. Example: Name=Q1

Number (String)

Text string up to 255 characters in length. Example: Number=10

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Orientation (0..3)

Four orientation settings, 0=0 degrees, 1=90 degrees, 2=180 degrees 3=270 degrees. Example: Orientation=1 rotates pin vertically 90 degrees.

Color (Integer)

Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Dot (True, False, Toggle)

Sets Dot Symbol option.

Clk (True, False, Toggle)

Sets Clk Symbol option.

Electrical (0..7)

Eight Electrical Types, 0=Input .. 7=Power. Example: Electrical=4 sets pin electrical type to Passive.

IsHidden (True, False, Toggle)

ShowName (True, False, Toggle)

ShowNumber (True, False, Toggle)

PinLength (Integer)

Specified in coordinate units of .01 inch.

Selection (True, False, Toggle)

Example

Process: SCH:PlacePin

PlacePolygon process

Description

Place a graphical polygon shape on the current schematic document.

Parameters

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Ex*ample: LineWidth=2 sets line width to medium.*

Color (Long Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor

(Long Integer) Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

IsSolid (True,False, Toggle)

Selection (True,False, Toggle)

Location1.X ...Location50.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Examples: Location1.X=100 Location2.X=200

Location1.Y ...Location50.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Examples: Location1.Y=500 Location2.Y=100

Example

Process: SCH:PlacePolygon

PlacePort process

Description

Place a port on the current schematic document.

Parameters

Name (String)

Text string up to 255 characters in length. Example: Name=D1

Style (0..3)

Four styles, 0=None, 1=Left, 2=Right, 3=Left & Right. Example: Style=1 sets style to Left.

IOType (0..3)

Four I/O types, 0=Unspecified, 1=Output, 2=Input, 3=Bidirectional. Example: IOType=3 sets I/O type to Bidirectional.

Alignment (0..2)

Three alignment settings, 0=Center, 1=Left, 2=Right. Example: Alignment=0 aligns text in the center of the port.

Width (Integer) Specified in coordinate units of .01 inch.

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Color (Integer) Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor (Integer) Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

TextColor (Integer) Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter.

Selection (True,False,Toggle)

Example

Process: SCH:PlacePort

PlacePowerPort process

Description

Place a specified power port on a schematic sheet.

Parameters

S (string) Specifies the text for the power port object.

Orientation (0..3) Determines the orientation of the power object. 0 =0 degrees, 3 = 270 degrees.

Style (0..6) 0..6 = Circle, Arrow, Bar, Wave, Power Ground, Earth Ground, Earth respectively

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Repeat (Boolean)

If the Repeat parameter is assigned to true, every-time you place a power port, you have a floating power port ready to be placed again, like a rubber stamp. If the repeat parameter is not present, only one copy will be placed on the sheet.

Example

Process: SCH:PlacePowerPort

Parameters : Color=128|Orientation=3|S=GNDBUS[..]|Style=4

PlaceProbe process

Description

The PlaceProbe process is used to place a simulation probe onto the current schematic document. A Probe is a special marker which is placed on the schematic document to identify nodes for digital simulation.

Parameters

S (String)

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle)

Example

Process: SCH:PlaceProbe

PlaceRectangle process

Description

Place a rectangle on the current schematic document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Corner.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

Corner.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor (Integer)

Specifies RGB value converted from 6 digit hexidecimal number. See Color parameter. Example: AreaColor=8224125

Selection (True,False,Toggle)

IsSolid (True,False,Toggle)

Example

Process:SCH:PlaceRectangle

PlaceRoundRectangle process

Description

Place a round rectangle on the current document.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Corner.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

Corner.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500.

CornerXRadius (Integer)

Specified in units of .01 inch. Example: CornerXRadius=30

CornerYRadius (Integer)

Specified in units of .01 inch.

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

Selection (True,False,Toggle)

IsSolid (True,False,Toggle)

Example

Process: SCH:PlaceRoundRectangle

Parameters : Location.X= 100 | Location.Y = 200 | *CornerXRadius = 30* | *CornerYRadius = 30* | *Corner.X = 500* | *Corner.Y = 500*

PlaceSheetEntry process

Description

The PlaceSheetEntry process is used to add a sheet entry to a sheet symbol. A sheet entry is used to direct signals to another sheet in a hierarchical design. There are four types of Sheet Entry symbols, Input, Output, Bi-directional and Unspecified.

Parameters

N/A

Example

Process: SCH:PlaceSheetEntry

PlaceSheetSymbol process

Description

The PlaceSheetSymbol process is used to place a sheet symbol onto a schematic document. A sheet symbol represents another schematic document in a hierarchical design. Sheet symbols include sheet entry symbols, which provide a connection point for signals between the parent and child sheets.

Parameters

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

XSize (Integer)

Specified in coordinate units of .01 inch.

YSize (Integer)

Specified in coordinate units of .01 inch.

LineWidth (0..3)

Four border widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets the sheet symbol border width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

Selection (True,False,Toggle)

IsSolid (True,False,Toggle)

ShowHiddenFields (True,False,Toggle)

SheetFileName (String)

Text string up to 255 characters in length. Specifies the full path and file name of the schematic document. Example: FileName=C:Child.SCH

SheetName (String)

Text string up to 255 characters in length.

Example

Process: SCH:PlaceSheetSymbol

Parameters : Location.X=100|Location.Y=100|XSize = 200|YSize=300|IsSolid=True|ShowHiddenFields=True|Color=8092|AreaColor=1100|LineWidth = 2

PlaceStimulus process

Description

The PlaceStimulus process is used to place a stimulus directive onto the schematic document.

Parameters

S (String)

Text string up to 255 characters in length. Example: S=BaudClk

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle)

Example

Process: SCH:PlaceStimulus

PlaceTestVectorIndex process

Description

The PlaceTestVectorIndex process is used to place a Test Vector directive onto the schematic document. Test Vectors are special symbols used to identify a node with a simulation test vector. The test vectors are referred to by a column number, which indicates the column of the test vector file to use when the simulation is run.

Parameters

S (String)

Text string up to 255 characters in length.

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Color (Integer)

Specifies RGB value converted from 6 digit hexidecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True,False,Toggle)

Example

Process: SCH:PlaceTestVectorIndex

Parameters : Location.X = 200 | Location = Y | S = Test Vector Index

PlaceTextFrame process

Description

The PlaceTextFrame process is used to place detailed notes or descriptive text onto the schematic document.

Parameters

LongString (String)

Text up to 64000 characters in length.

Location.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.X=100

Location.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Location.Y=1500

Corner.X (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Corner.X=200

Corner.Y (Integer)

Specified in coordinate units of .01 inch. Range is 0-6500. Example: Corner.Y=500

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

AreaColor (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: AreaColor=8224125

TextColor (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. See Color parameter. Example: TextColor=125

FontID (String) The font is specified by a description string. The string contains seven fields each separated by a space. "<Size> <Rotation> <Underline> <Italic> <Bold> <StrikeOut> <FontName>". Size is an integer; Rotation cannot be set, always 0; Underline, Italic, Bold and Strikeout are boolean flags 0=False, 1=True; FontName is the actual font name. Examples: FontID=8 0 0 0 1 0 Helv - produces a Helvetica bold font with 8pt size. FontID=12 0 0 1 0 0 Times New Roman - produces a Times New Roman bold, italic font with 12pt size.

IsSolid (True,False,Toggle)

ShowBorder (True,False,Toggle)

Alignment (True,False,Toggle)

WordWrap (True,False,Toggle)

ClipToRect (True,False,Toggle)

Selection (True,False,Toggle)

Example

Process: SCH:PlaceTextFrame

Parameters : Location.X=500 | Location.Y = 500

PlaceWire process

Description

Place an electrical wire on the current schematic document.

Parameters

LineWidth (0..3)

Four line widths, 0=Smallest, 1=Small, 2=Medium, 3=Large. Example: LineWidth=2 sets line width to medium.

Color (Integer)

Specifies RGB value converted from 6 digit hexadecimal number. For example the color blue would be RGB:0,0,255 and Hex:FF0000 therefore the converted decimal value would be 16711680. The following formula may be used to calculate the required value, R+256*(G+(256*B)). Examples: Color=0 is black Color=255 is red Color=65280 is green Color=16711680 is blue Color=16777215 is white.

Selection (True, False, Toggle)

Repeat (True,False)

If the Repeat parameter is assigned to true, every-time you place a wire object, you have another floating wire ready to be placed again, like a rubber stamp. If the repeat parameter is not present, only one copy will be placed on the sheet.

Example

Process: SCH:PlaceWire

PreviousComponentLibraryEditor process

Description

The PreviousComponentLibraryEditor process is used to go to the previous component in a current library document.

Parameters

N/A

PreviousComponentPart process

Description

The PreviousComponentPart process is used to show the previous part of a multiple part component in the current library document.

Parameters

N/A

PrintDocument process (SCH)

Description

N/A

Parameters

N/A

Redo process (SCH)

Description

Redoes the previous operation.

Parameters

N/A

Example

Process: SCH:Redo

RemoveComponentPart process

Description

The RemoveComponentPart process is used to delete a part from a component within a current library document.

Parameters

N/A

RemoveDuplicateComponentNames

Description

The RemoveDuplicateComponentNames process is used to remove/delete duplicate components from the current library. The first component name in the library is saved and all other components with the same name are removed.

Parameters

N/A

Example

Process: SCH:RemoveDuplicateComponentNames

RemoveTemplate process

Description

Remove any template information from the current schematic document.

Parameters

N/A

Example

Process: SCH:RemoveTemplate

RenameObjectText process

Description

Changes the text field associated with an object from the Browser such as the designator of the current part.

Parameters

N/A

Example

Process: SCH:RenameObjectText

ReportComponent processs

Description

The ReportComponent process is used to retrieve general information about the current component in the schematic library.

Parameters

FileName (String)

Text string up to 255 characters in length. Specifies the full path and file name of the report document.

Show (True, False)

Depending on whether to display the report file. Defaults to True.

Example

Process: SCH:ReportComponent

Parameters : Filename = Report | Show = True

ReportComponentLibrary process

Description

The ReportComponentLibrary process is used to retrieve general information about the current schematic library.

Parameters

FileName (String)

Text string up to 255 characters in length. Specifies the full path and file name of the report document.

Show (True,False).

Load and display report in text editor if True. Defaults to True.

Example

Process: SCH:ReportComponentLibrary

Parameters : Filename = ReportLibrary.Txt | Show = True

ResetUniqueIds process

Description

The ResetUniqueIds process resets the Unique Ids of all components on the schematic document.

Parameters

N/A

Example

Process: SCH:ResetUniqueIds

Select process (SCH)

Description

Select objects inside/outside an area, all objects or a connection on a current schematic sheet.

Parameters

Action (InsideArea,OutsideArea,All, Connection).

Example

Process: SCH:Select

Parameters : Action= All

See also

DeSelect process.

SelectionMemory process (SCH)

Description

Perform one of the many selection memory processes including displaying the *Selection Memory* dialog.

Parameters

Action (ShowDialog, Store, Recall, StorePlus, RecallPlus, Clear, Apply)

Index (1..n)

Notes

There are up to 9 Store and Recall memory states for the Selection Memory diailog.

Example

Process: SCH : SelectionMemory

Parameters : Action = ShowDialog | Index = 1

SendObjectToBack process

Description

The SendObjectToBack process is used to send objects on the schematic document to the back of all other objects.

Parameters

N/A

SendObjectToBackOf process

Description

The SendObjectToBackOf process is used to move an object on the schematic document behind another object. This process is similar to the SendObjectToBack process, except that you will be prompted to select the object that the original object will be placed behind.

Parameters

N/A

SetLocationMark process

Description

The SetLocationMark (1..10) processes are used to tag or mark specific locations on the schematic worksheet. The JumpLocationMark (1..10) processes are used to move the cursor to this set location.

Parameters

LocationMark (1..10)

CurrentLocation (True,False)

Notes

If CurrentLocation is false, the location mark is set at where you click on the schematic document.

SetupArrayPlacement process

Description

The SetupArrayPlacement process is used to define a multiple placement of the clipboard contents onto the current schematic document.

Parameters

ItemCount (Integer)

Specifies the item count value.

TextIncrement (Integer)

Specifies the text increment value.

HorizontalSpace (Integer)

Specifies the horizontal spacing value.

VerticalSpace (Integer)

Specifies the vertical spacing value.

Example

Process: SCH:SetupArrayPlacement

Parameters : ItemCount = 4 | TextIncrement = 10 | HorizontalSpace = 10 | VerticalSpace = 10

SetupPreferences process (SCH)

Description

The SetupPreferences process is used to define various Schematic and Library Editor settings, such as cursor shape, default template file, grid display type, selection color, auto-junction, and other options that apply to all Schematic and Library Editor documents.

Parameters

Tab (Schematic, Graphical Editing, Default Primitives)

SelectionColor (Integer)

ResizeColor (Integer)

TranslateRotateColor

DocumentScope (0,1) Current Document or Open Documents

LibraryScope (0,1) Current Library or Open libraries

ConfirmSelectionMemoryClear (Integer) 0 False, 1 True

SnapToCenter (True,False,Toggle)

UseOrcadPorthWidth (True,False,Toggle)

SelectionReference (True,False,Toggle)

UndoRedoStackSize (True,False,Toggle)

ConvertSpecialStrings (True,False,Toggle)

MaintainOrthogonal (True,False,Toggle)

DisplayPrinterFonts (True,False,Toggle)

HotSpotGridDistance (Integer)
SnapToHotspot (True,False,Toggle)
AutoZoom (True,False,Toggle)
AutoJunction(True,False,Toggle)
OptimizePolylines (True,False,Toggle)
ComponentsCutWires (True,False,Toggle)
AddTemplateToClipboard (True,False,Toggle)
DefaultTemplateFilename (String)
AutoPanJumpDistance (Integer)
AutoPanShiftJumpDistance (Integer)
PinNameMargin (Integer)
PinNumberMargin (Integer)
ShowPinDirection (True,False,Toggle)
ShowPortDirection (True,False,Toggle)
UnconnectedLeft2Right (True,False,Toggle)
ShowSheetEntryDirection (True,False,Toggle)
DefaultPrimsPermanent (True,False,Toggle)
IgnoreSelection (True,False,Toggle)
ClickClearsSelection (True,False,Toggle)
DoubleClickRunsInspector (True,False,Toggle)
Sensitivity (integer)
SingleSlashNegation (True,False,Toggle)
RunInPlaceEditing (True,False,Toggle)
DefaultPowerGndName (String)
DefaultSignalGndName (String)
DefaultEarthName (String)
StringIncA (String)
StringIncB (String)
MarkManualParameters (True,False,Toggle)
CtrlDbleClickGoesDown (True,False,Toggle)
CutterGridSizeMultiple (2-10)
CutterFixedLength (Integer)
MultiPartNamingMethod (Integer)
BufferedPainting (True,False,Toggle)
Metafile_NoERCMarkers (True,False,Toggle)
Metafile_ParameterSets (True,False,Toggle)
MustHoldShiftToSelect (True,False,Toggle)
ToggleMustHoldShiftToSelect (True,False,Toggle)
VisibleGridStyle (0,1) Dot Grid, Line Grid
GraphicsCursorStyle (0,1,2) Large Cursor 90, Small Cursor 90, Small Cursor 45
OrcadFootPrint (0..8) 0 Part Field 1 ...7 Part Field 8, 8 Ignore
AutoPanStyle (0,1,2) AutoPan Off, Auto Pan Fixed Jump, AutoPan Recenter
PolylineCutterMode (0,1,2) 0 = Cutter Snap to Segment, 1 = Grid Size, 2 = Fixed Length
ShowCutterBoxMode (0,1,2) 0 = Never, 1 = Always, 2 = On Polyline
ShowCutterMarksMode (0,1,2) 0 = Never, 1 = Always, 2 = On Polyline
AF_PlacementDim (True, False, Toggle)

AF_PlacementZoom (True, False, Toggle)

AF_PlacementThicken (True, False, Toggle)

AF_EditLocationDim (True, False, Toggle)

AF_EditLocationZoom (True, False, Toggle)

AF_EditLocationThicken (True, False, Toggle)

AF_EditPropertyDim (True, False, Toggle)

AF_EditPropertyZoom (True, False, Toggle)

AF_EditPropertyThicken (True, False, Toggle)

AF_EditInPlaceDim (True, False, Toggle)

AF_EditInPlaceZoomText (True, False, Toggle)

AF_EditInPlaceZoomConnection (True, False, Toggle)

AF_DimLevel (Integer)

AF_ThickenDelay (Integer)

ConvertCrossJunctions (True, False, Toggle)

DisplayCrossOvers (True, False, Toggle)

ShowHints (True, False, Toggle)

DefaultSheetStyle (0..17) 0 = A4,1 =A3, 2= A2,3=A1, 4=A0, 5 = A, 6= B, 7 = C, 8 = D, 9 = E, 10 = Letter, 11 = Legal, 12 = Tabloid, 13 = OrcadA, 14 = OrcadB, 15 = OrcadC, 16 = OrcadD, 17 = OrcadE

Example

Process: SCH:SetUpPreferences

Parameters : ConvertSpecialStrings = Toggle | ShowHints = True | DisplayCrossOvers = True

SetupPrinter process (SCH)

Description

N/A

Parameters

N/A

SynchronizeHierarchy process

Description

Updates ports and sheet entries in the project, current document or the chosen sheet symbol.

Parameters

*Action (*WholeProject, WholeDocument, SingleSheetSymbol).

Example

Process: SCH:SynchronizeHierarchy

Parameters : Action = WholeDocument

ToggleComponentModeDisplay process

Description

The ToggleComponentModeDisplay process toggles a component into one of its alternate component modes if any. The default mode for the component is Mode0 and the next modes are Mode1..Mode 254 if any exist.

Parameters

Action (Previous,Next, Add, Remove, Moden) where n is 0 to 254

Notes

Previous value goes to the previous component mode, Next goes to the next component mode, Add creates a new component mode and you can define a new component in the library, Remove deletes the current component mode, and Moden goes to the specified component mode.

Example

Process: SCH:ToggleComponentModeDisplay

Parameters : Action = Mode0

ToggleElectricalGrid process

Description

The ToggleElectricalGrid process is used to turn the Electrical grid on or off. The Electrical grid defines an array of points in the workspace that restricts cursor movement and the placement of objects. Turning the Electrical grid off allows you to place objects at any location on the schematic document without any restrictions.

Parameters

N/A

ToggleHiddenPins process

Description

The ToggleHiddenPins process is used to show or hide all the pins that have the attribute of Hidden. This process does not change the Hidden property of pins.

Parameters

N/A

ToggleSelection process (SCH)

Description

Toggles the selection state of selected objects on a schematic document.

Parameters

N/A

Example

Process: SCH:ToggleSelection

ToggleSingleObjectSelection process

Description

The ToggleSingleObjectSelection process is used to select and de-select objects on a schematic by moving the cursor over the object and clicking SHIFT + LEFT MOUSE.

Parameters

N/A

ToggleSnapGrid process

Description

The ToggleSnapGrid process is used to turn the snap grid on or off. The snap grid defines an array of points in the workspace which restrict cursor movement and the placement of primitives. Turning the snap grid off allows you to place primitives at any location on the schematic document without any restrictions.

Parameters

N/A

ToggleVisibleGrid process

Description

The ToggleVisibleGrid process is used to turn the visible grid on or off in the current document window. The visible grid provides visual reference as you move around the schematic and can be displayed as dots or straight lines.

Parameters

N/A

Undo process (SCH)

Description

Undoes the current operation.

Parameters

N/A

UpdateComponentsFromLibraryEditor process

Description

The UpdateComponentFromLibraryEditor process is used to automatically update/replace matching parts in opened schematic documents with the component in the current documet.

Parameters

Filename (String) The filename of the library

LibRef (String) The name of the part to be updated.

Example

Process: SCH:UpdateComponentsFromLibraryEditor

UpdateCurrentTemplate process

Description

The UpdateCurrentTemplate process is used to update the current sheets template information from its template file.

Parameters

N/A

UpdateLibraryMask process

Description

N/A

Parameters

N/A

UpdatePartDatabaseLinks process

Description

N/A

Parameters

N/A

UpdatePartFromLibraryEditor process

Description

The UpdatePartFromLibraryEditor process is used to update all parts in every schematic that is open from the library editor.

Parameters

Filename (String) The filename of the library.

LibRef (String) The name of the part to be updated.

UpdatePartsFromLibraryList process

Description

The UpdatePartsFromLibraryList process is used to update all parts in every single sheet that is open, from libraries listed in the Change Library File List dialog box.

Parameters

N/A

Zoom process (SCH)

Description

The Zoom process is used to set the zoom level of the current Schematic document. Depending upon the parameters, a number of zoom actions can be performed from refreshing the screen to displaying a specified region of the schematic document.

Parameters

ZoomLevel (Real)

Prompts for a zoom value if not specified.

Action (ZoomIn,ZoomOut,Pan, Redraw, All)

Object (WIndow, Point, Selected)

Example

Process: SCH:Zoom

Parameters : ZoomLevel = 0.5

Work Space Manager Processes

This section covers the Work Space Manager processes and their parameters (if any).

ClipBoardAction process

Description

Execute a specified action for the clipboard, to cut, copy, paste or clear the contents from the Workspace manager clipboard. For example you are able to copy, cut, paste and clear different output jobs for each project.

Parameters

Action (Cut, Copy, Paste, Clear)

ObjectKind (OutputSingle)

Example

Process: WorkSpaceManager:ClipBoardAction

Parameters : Action = Copy | ObjectKind = OutputSingle

ChangeObject process (WSM)

Description

Change Output Generator properties for the Output jobs.

Parameters

Action (Cut, Copy, Paste, Clear)

ObjectKind (OutputSingle)

Example

Process: WorkSpaceManager:ClipBoardAction

Parameters : Action = Copy | ObjectKind = OutputSingle

CloseObject process

Description

Close a document, focussed document, project, all documents in a project or all documents in the DXP workspace.

Parameters

ObjectKind
(All,Document,FocusedDocument,FocusedCategory,ProjectAndDocuments,FocusedProjectAndDocument,FocusedProjectTree, ProjectDocuments,FocusedProjectDocuments,WorkspaceDocuments)

Example

Process: WorkSpaceManager:CloseObject

Parameters : ObjectKind = All

Example 2: Close everything in DXP in a script

```
Procedure CloseEverything;
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','All');
    RunProcess('WorkspaceManager:CloseObject');
End;
```

Example 3 Close all the documents within the focussed project tree in a script

```
Procedure CloseProjectTree(ProjectName : String);
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','FocusedProjectTree');
    RunProcess('WorkspaceManager:CloseObject');
End;
```

Compile process

Description

The Compile process is used to compile a document, project or open projects to refresh all the linking information and net information.

Parameters

Action (Compile, Recompile)

ObjectKind (Document, Project, All, FocusedDocument, FocusedProject)

Example

Process: WorkSpaceManager : Compile

Parameters: ObjectKind = Project

Compare process

Description

The Compare process is used to update or import source documents of a PCB project with respect to a reference project, such as comparing an active document against a parent project.

Parameters

ObjectKind (Project,FocusedProject)

Action (UpdateOther, UpdateMe)

UpdateOther updates other documents with respect to the reference source document, and UpdateMe updates the actual source document.

Index (1..9) Compare to the indexed project.

Example

Process: WorkSpaceManager : Compile

Parameter: Action = UpdateOther

DocumentOptions process

Description

Execute a specified configuration process to update a document or project such as updating search paths, difference level for the ERC, or configure the output jobs facility.

Parameters

Action (ViewChannels, ComponentLinking, VariantManagement, OutputJobManagement, Options,ViolationLevels, ViolationMatrix, DifferenceLevels, ChangeOrderLevels, SearchPaths, Parameters, Annotate, Order, AnnotateReset, AnnotateQuiet, AnnotateAll, BackAnnotate, LibrarySynch, DatabaseUpdate)

ObjectKind (Project,FocusedProject,FocusedDOcument,Document,OutputSingle, Workspace, Databaselink)

Mode (EditConnection,'')

Notes

If ObjectKind=DatabaseLink, and you need to change the database connection, assign mode=EditConnection.

Example

Process: WorkSpaceManager:DocumentOptions

Parameters : Action = Project | ObjectKind = AnnotateAll

DeleteObject process (WSM)

Description

Execute a specified delete action.

Parameters

ObjectKind (FocusedDocument,FocusedCategory,Document, Variant, OutputSingle)

The FocusedCategory value is to remove all documents in a specified category from a parent project. The Document value is to remove the active document from the parent project. The OutputSingle value removes the specified output generator.

Example

Process: WorkSpaceManager:DeleteObject

Parameters : ObjectKind = FocusedDocument

ExploreTo process

Description

Opens Windows Explorer in the focussed documents, projects or design workspace folder.

Parameters

ObjectKind (FocusedDocument, FocusedProject, Workspace)

Example

Process: WorkSpaceManager:Explore

Parameters : ObjectKind = Workspace

EmbeddedScanDependencies process

Description

Scan the dependencies for the entire project in DXP.

Parameters

ObjectKind (All)

Example

Process: WorkSpaceManager:EmbeddedScanDependencies

Parameters : ObjectKind = All

FPGAPins process

Description

Runs the FPGA signal manager, configure the FPGA component for pin swapping, create a PCB project from a FPGA project or generate a FPGA project from a FPGA component.

Parameters

Action (RunManager, RunPinSwapManager, GenerateFromFPGA, GenerateFromPCB)

Example

Process: WorkSpaceManager:FGPAPins

Parameters : Action = RunManager

EmbeddedSelectToolChain process

Description

Select a new tool chain for your FPGA/Embedded project.

Parameters

N/A

Example

Process: WorkSpaceManager:EmbeddedSelectToolChain

EmbeddedOptions process

Description

Edit the embedded option settings for the active or focussed project or document.

Parameters

ObjectKind (Project, FocusedProject, FocusedDocument)

Example

Process: WorkSpaceManager:EmbeddedOptions

Parameters : ObjectKind = Project

FPGAWorkspace process

Description

Runs the FPGA workspace map.

Parameters

N/A

GenerateReport process

Description

Generate a specified report in DXP.

Parameters

Action (Run,Load)

ObjectKind (Report,Netlist, OutputSingle,OutputBatch,OutputSelected,Fabrication, Assembly,Simulator)

Kind (SimpleBOM, BOM, BOM_PartType, Violations, Hierarchy, Designators, Parameters, CrossReference, AdvSimNetlist)

Target (Document)

DoEditProperties (True,False)

DefaultCaption (True,False)

DoGenerate (True,False)

Index (1..n) Choose one of the indexed generators to generate a report.

Notes

- To generate a group of reports, specify the value (OutputSingle, OutputBatch or OutputSelected) for the ObjectKind parameter.
- Using the XSPICE simulator, assign the values to the following parameters...

To setup the simulator, ObjectKind=Simulator | Kind = AdvSimNetlist |DoEditProperties = True | DoGenerate = True | DefaultCaption = True.

To run the simulator, ObjectKind=Simulator | Kind = AdvSimNetlist | DoEditProperties = False | Action = Run | DefaultCaption = True.

To generate a XSPICE netlist, ObjectKind=Simulator | Kind = AdvSimNetlist | DoEditProperties = False | Action = Load | DefaultCaption = True.

Example

Process: WorkSpaceManager:GenerateReport

Parameters : Action = Run | ObjectKind = OutputSelected

GenerateSymbol process

Description

Generate a schematic symbol in a library from the current document.

Parameters

N/A

See also

WorkSpaceManager processes

HideObject process

Description

Execute a specified hiding action, to hide current document, project or all documents in DXP workspace.

Parameters

ObjectKind (Document,FocusedDocument,FocusedCategory,FocusedProject, All)

Example

Process: WorkSpaceManager:HideObject

Parameters : ObjectKind = FocusedDocument

InsertObject process

Description

The InsertObject process creates projects from a specified path, add a document to a project or add a free document to a focused project for example.

Parameters

ObjectKind (CreateProjectsFromPath, Project, FocusedProject, FocusedDocument, Variant, Fabrication, Documentation, OtherOutput, Assembly, Netlist, Report, OtherOutputOutput, OutputSingle, OutputDuplicate)

Index (1..20)

Notes

Fabrication, Documentation, OtherOutput, Assembly, Netlist, Report, OtherOutputOutput values for the ObjectKind parameter, you need to specify the Index value too.

Example

Process: WorkspaceManager:InsertObject

Parameter: ObjectKind = Fabrication | Index = 4

Print process

Description

Execute a specified process to invoke the page setup for printing, preview documents, or setup the printer.

Parameters

Action (PageSetup,Preview,PrintWithDialog,PrintDocument,PrintSelection,PrinterSetup)

ObjectKind (OutputSingle,FocusedDocument)

Example

Process: WorkSpaceManager:Print

Parameters : Action = Preview

OpenObject process

Description

Open a specific object in DXP such as a document or a project.

Parameters

ObjectKind (NewAnything, DocumentList, RecentDocument, RecentProject, RecentProjectGroup, Document, FocusedDocument, FocusedCategory, Variant, Project, FocusedProject, ProjectAndDocuments, FocusedProjectAndDocuments, ProjectDocuments, FocusedProjectDocuments, ProjectGroupDocuments, ProjectGroup, LastProjectGroup, PrimaryDocument, MessageView, MessageViewSelection, CreateProjectsFromPath, All,Assembly, Fabrication, Report, Netlist, Documentation, ,OtherOutput, OutputSingle, OutputBatch, OutputSelected, OutputDuplicate, DatabaseLink, OutputPreference, ControlPanel, FreeDocument, WorkSpaceDocuments, Workspace)

OpenMode (Standard, NewFromExisting, NewFromTemplate, .Project)

Ext (*.PCBDOC, *.SCHDOC)

DocumentType (PCB, SCH)

Filename (String)

Index (Integer) The position in the most recently used documents list.

Kind (EDIF, EDIFLIB, ProtelNetlist, PCB, SCH, SCHLIB, PCBLIB, PCB3DLIB, C, TEXT, CPP, CUPL, MDL, NSX, CKT, SIMDATA, EditScript, OutputJob, DatabaseLink, VHDL,VHDLIB, VHDMDL, VHDTST VHDL,PcbProject, CoreProject,

FpgaProject, EmbeddedProject, IntegratedLibrary, ProjectGroup, CAM, WAVE, IntLibrary, ScriptProject, EditScriptUnit, EditScriptForm)

Notes

- If ObjectKind = NewAnything, you need to specify the Kind parameter as well.

Example

Process: WorkspaceManager:OpenObject

Parameter: ObjectKind = Project

Example 2: Open a project using the script

```
Procedure OpenProject(ProjectName : String);
Begin
    Result := True;
    If Not FileExists(ProjectName) Then Result := False;
    ResetParameters;
    AddStringParameter('ObjectKind','Project');
    AddStringParameter('FileName', ProjectName);
    RunProcess('WorkspaceManager:OpenObject');
End;
```

See also

CloseObject process

SaveObject process

SaveObject process

Description

Execute a specified save action to save a document as another document with a different filename, focussed document, all documents in the workspace, or documents of a project for example.

Parameters

ObjectKind (Document,FocusedDocument,FocusedCategory, FocusedProject,ProjectDocuments,WorkspaceDocuments,Workspace,All)

SaveMode (Standard,SaveAs,SaveCopyAs)

Example 1: Save a document as a different document

Process: WorkSpaceManager:SaveObject

Parameters : ObjectKind = Document | SaveMode = SaveAs

Example 2 : Save all documents in a script

```
Procedure SaveAll;
Begin
    ResetParameters;
    AddStringParameter('ObjectKind','All');
    RunProcess('WorkspaceManager:SaveObject');
End;
```

SetupPreferences process (WSM)

Description

Invoke the system setup preferences dialog, the output jobs preferences dialog, or configure the Project Panel.

Parameters

ObjectKind (OutputPreferences,'')

Page (Projects Panel, '') Change extra preferences of the Projects panel.

Grouping (True, False) Group similar documents or not on the panel.

GroupByClass (True,False,Toggle)

GroupByOrder (True,False,Toggle)

SortByName (True,False,Toggle)

SortByStatus (True,False,Toggle)

SortByVCSStatus (True,False,Toggle)

ShowPosition (True,False,Toggle)

ShowStatus (True,False,Toggle)

ShowVCSStatus (True,False,Toggle)

Example

Process: WorkSpaceManager:SetupPreferences

SetCurrentProject process

Description

Make the current project the active project in DXP.

Parameters

N/A

Example

Process: WorkSpaceManager:SetCurrentProject

SetSubProject process

Description

Set the embedded project for the nexus core, or the sub project for the FPGA component..

Parameters

Target (Core,Component)

Example

Process: WorkSpaceManager:SetSubProject

Parameters : Target = Core

ShowHiddenDocument process

Description

Show an indexed hidden document in DXP

Parameters

Index (1..16)

Example

Process: WorkSpaceManager:ShowHiddenDocument

Parameters : Index = 1

VersionControl process

Description

Execute a specified action for the version control software application. You can add/remove documents, projects to/from the version control, check in or out documents and projects, check out the history, differences and properties of the version control system.

Parameters

Action (Get,Checkout, Checkin, UndoCheckout, History, Differences, Properties, Refresh, Run,Add,Remove)

ObjectKind (FocusedProject,FocusedDocument)

Example

Process: WorkSpaceManager:VersionControl

Parameters : ObjectKind = FocusedDocument | Action = Add

View process

Description

The View process can bring a DXP panel into view on DXP. Navigator panel (two modes – flattened project or physical hierarchy), Projects panel, Messages panel, Differences panel and Browser panel for example.

Parameters

ObjectKind (NewAnything, DocumentList, RecentDocument, RecentProject, RecentProjectGroup, Document, FocusedDocument, Variant, Project, FocusedProject, ProjectAndDocuments, FocusedProjectAndDocuments, ProjectDocuments, FocusedProjectDocuments, ProjectGroupDocuments, ProjectGroup, LastProjectGroup, PrimaryDocument, MessageView, MessageViewSelection, CreateProjectsFromPath, All, Assembly, Fabrication, Report, Netlist, Documentation, OtherOutput, OutputSingle, OutputBatch,OutputSelected, OutputDuplicate, DatabaseLink, OutputPreferences)

ShowError (True,False)

Locates the violation in the project.

ShowDifference (True,False)

Locates the difference object in the project.

Action (ShowPhysicalHierarchy, ShowLogicalHierarchy, ShowDocuments, ShowLIbraries, ShowFlattened, ShowErrors, ShowDifferences, ToggleBrowser, ToggleProperties)

Revision History

Date	Version No.	Revision
01-Dec-2004	1.0	New product release
26-Apr-2005	1.1	Altium Designer
15-Dec-2005	1.2	Updated for Altium Designer 6
21-Apr-2006	1.3	Incorrect parameters updated.
21-Apr-2008	1.4	Updated Page Size to A4

Software, hardware, documentation and related materials:

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